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CULTIVATOR,

A MONTHLY JOURNAL

For the Farm and the Garden,

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AGRICULTURAL AND RURAL IMPROVEMENT,

AND

Designed to Improve the Soil and the Mind.

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A GLANCE FORWARD.

One who predicts, every night, a stormy day for the morrow, will be quite sure to turn out a true prophet, if he only continues his prognostications long enough. Thus a London paper, devoted to the interests of the Grain trade, took the position when the war broke out here in 1861, that our crop of 1860 must be all kept at home for the wants of our armies, and that we should have none of *that*, of any consequence, to export. Later in the season, when our wheat was carried over the sea in vast quantities, its prophecy was that our country population had been so thinned out by army enlistments that we could not raise much of a crop in 1861, and there would certainly be none of *that* to sell to hungry Britons. And when we pointed out, a year ago last summer, that we never before had had such an abundance of grain to dispose of, and when this statement came to be verified by the shipments of last winter and spring and summer, there came a repetition of the prophecy, with reference to the crop of 1862; and Englishmen were assured in effect that as there would be none of *that*, at any rate, to be sent abroad, they might intervene in our affairs just as well as not, without endangering their own supplies of food. Again we asserted that the country as a whole was proving wonderfully productive, that scarcity of labor had not yet begun to interfere with our farming, and that the yield of the United States in 1862 would afford nearly or quite as heavy a surplus as had been the case the previous year. And this assertion has been verified by shipments during the past autumn, since the new crop came in, without a parallel we believe in the previous history of the grain trade of the country.*

And now our soothsayer, not a whit discouraged by the dawning of clear sunshine and bright skies each time he has heretofore gone to bed with the prediction of a rainy morning on his lips, has once more come forward with vaticinations of a storm. In 1863 he is quite sure we shall have no surplus of grain to sell, even if we are not in a condition of scarcity ourselves. Have not American writers often shown that the soils of all the eastern States are in a condition of great exhaustion, and is not the great West comparatively depopulated by the last great calls for soldiers? Such is the burden of his song.

And we take the matter up—passing by the nonsense that has been so often repeated and so frequently refuted, about the exhaustion of our lands at the East, because we find it more profitable to devote them to other purposes than to wheat-growing—to say that it would not now surprise us if these persistent auguries should at last be partially verified in the event. The weather has been fine so long, that warnings of the coming rain ought not, this time, to be totally disregarded.

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* "In 1860 we imported from the United States 2,294,470 cwts. of wheat flour, 4,957 cwts. oatmeal, and 7,617 cwts. of Indian corn meal. In 1861 the quantity received from America was 3,794,865 cwts. of wheat flour, and 9,000 cwts. of Indian meal. This year the quantity of these has been even larger."—London Mark Lane Express, Nov. 17. [This statement is of FLOUR simply, not of Wheat in the grain.

Indeed, our columns will bear us witness that even while showing the abundance that has reigned here during the past two years, we have not ceased to urge upon our farmers the almost incalculable importance to the country and to themselves of straining every nerve to maintain and promote the farther productiveness of their lands. Here and wherever we have had an opportunity of gaining the farmer's ear, we have pointed out that seasons of abundance and low prices, have almost invariably been succeeded by those of smaller crops and higher rates; and that this is more than ever likely to turn out the case, in the present instance, with war on a scale of such magnitude going on among us, and with a constantly increasing draft from the field of agricultural labor into that of battle—from the ranks of producers into those of consumers. The million of men whom the Secretary of War now estimates to be engaged, on the part of the North, in the great struggle to uphold our government and put down treason,—have many of them gone forth since the crop of 1862 was safely housed; and it must be borne in mind not only that a part of them came directly from the farm, but also that the consumption of wheat by them all, is immensely greater than it would be if they were at home instead of in the camp. At home, there is a variety of food constantly before them; fresh meats, potatoes, and the like, constitute a far larger proportion of their diet, than when, in the camp, they are forced to make flour in some form really their "staff of life." At home a degree of economy is practiced, incompatible with the hurry or the negligence of large forces on the march. At home, now and then, a barn is burnt or a grain-laden vessel sunken; in the movements of armies, stores of immensely greater importance are subject to capture, or must be abandoned or destroyed in hasty movements, or are spoiled from lack of care and from necessary exposure.

Thus it becomes an object of great moment that no exertion should be omitted which has a bearing direct or indirect on the harvests of the coming year. As was well said in an article published a fortnight ago,—if Agricultural Societies and Farmers' Clubs have ever been made, or can ever be made, "of any practical utility, they were never more needed than at the present time." And the same is true with reference to other sources of agricultural information. It is no time to neglect them now.

Some months ago we gave the Census returns in 1860, of the Agriculture of this State, and showed how clear and strong was the evidence they afforded that during the preceding ten years our farmers have made a vast advance, and this mainly in three directions—in the extent to which they are employing improved implements and machinery,—in the greatly increased productiveness of their domestic animals, owing to the wider and more general dissemination of improved breeds of stock,—and in the enlarged and more profitable productiveness of our orchards and gardens. It is to just these three objects that our Agricultural Societies have chiefly directed the competition of their Shows and the encouragement of their prizes; and in the progress that has been accomplished in these three directions, we have evidence enough that such societies have performed a great and good work among us. But we cannot forbear adding "that behind and beneath the Agricultural Society, there has been at work the more quiet but not less effective influence of the Agricultural Journal, not only to introduce and disseminate the better implements, and breeds of animals, and kinds of fruit, which give variety and vitality to the agricultural exhibition, but also to promote deeper and more extended observation on the part of the farmer, to discuss the systems and processes of the Farm,—the means and rationale of the improvement of the land, as well as of the machinery by which it is cultivated, or the crops and stock to which it is devoted." And we cannot but appeal to our readers, to extend increased support to their Agricultural Journal, not less by efforts to promote its larger circulation in this emergency, than by continued contributions from the stores of their own experience, to enrich its columns for the benefit of others.

* * *

Early Care of Fattening Animals.

Almost every farmer fattens annually a supply of pork and beef for home consumption, and of the former, many who do not claim to be farmers, grow more or less, while the markets are largely supplied from the "few to sell," kept by every occupant of a farm. Yet, with all this experience, from the want of the best management, this fattening is at least one-fourth more expensive than it need to be. A proper system of care and feeding would produce results so superior to those commonly attained, as to astonish the majority of farmers. We propose to offer some thoughts on two errors in the rearing of our pork and beef, which, although often shown up, still prevail far too widely among us.

The first is the neglect of the growing animal before the fattening process is begun. A pig, for instance, should live only to make pork—should be kept growing from birth until fit for the knife of the butcher. But this treatment is seldom given save by those who seek to make pork of pigs at eight to ten months old. Some few are very successful in this; others attempt it and fail—and most frequently fail from not keeping up in the animal the most rapid growth consistent with health and vigor. Others (in the case of swine) feed well for a time, but in autumn, when from short pastures the dairy slops decrease, and the pumpkins, apples, and small potatoes, are not yet ripe or convenient for feeding; no provision is made to supply the lack, and the pigs cease to fatten if they do not fall away, and their thrift receives a check from which they do not easily recover. By-and-by the farmer begins in earnest to fatten them, but finds that it takes as much extra feed to get them improving again, as it would to have kept them during this interval in the best condition, and that he has lost all they would have gained—from one to two pounds per day—by this want of better management.

In making beef we lose from the same causes. A calf kept winter and summer in thrifty growth, at two years old will make as much or more beef, than one neglectfully kept at twice the age. The profit will all be found on the side of the two-year old, the loss on the four-year old, yet the owner of the latter has pursued his system, if system it may be called, with the idea that he was saving money. Keep the thrifty animal two years longer in the same way, and something really handsome in the way of beef will be the result, but the starveling can never pay the expense of its rearing and feeding. We do not pretend to say that farmers usually neglect their stock to so great an extent, but we do say from what we see and know, that a large majority of them lose largely from neglect in this direction.

Another source of loss from want of timely attention, is found in the delay to commence seasonably—early in autumn—the fattening process. The animal heat is kept up at the expense of the food consumed—in mild weather that is converted into fat, which in cold is burned up as fuel. It is as much burned up as the wood with which we feed our stoves, in reality, though by a different process. This has been fully and repeatedly explained, and ought to be well understood; still we find many farmers neglect to take advantage of this physiological fact in the care of their animals. In severe cold weather, under the usual exposure, no improvement can be made even with the most liberal feeding, and comparatively mild winter weather is far less favorable than autumn for fattening.

Much food is wasted by the delay in its consumption by fattening and dairy stock. We see, every year, tons of pumpkins frozen and lost, which would have helped largely as the grass began to fail, and should have been fed out from the time of the first frost until all were used; while hundreds of bushels of fruit, apples particularly, rot under the trees or are made into cider without profit, which might have been converted into pork or beef and butter, and large quantities of roots and vegetables are wasted, or only partially used, without care or economy in collecting or feeding. These should not alone be depended upon, of course, but with more nutritious food, ground, and cooked or fermented for swine, a good start would be given at but slight expense to our fattening animals. Before Christmas the process could be completed—often before Thanksgiving-day would be the better period. The markets are quite as favorable, take the extra expense of winter fattening into account, in November, as later in the season.

Various other considerations in regard to the early care of fattening animals occur to us, which will also suggest themselves to our readers, but we propose again to recur to the subject, more particularly to the most economical methods of feeding for the butcher.

THE RIBSTON PIPPIN.

Downing remarked sixteen years ago, that this apple stood as high in Great Britain as the Bank of England. In the northern portions of our own country it has been occasionally found very fine; but generally, it is not a popular fruit, and has nearly passed out of cultivation. The English *Cottage Gardener* says that it has greatly deteriorated in quality in England,—"the trees, thriving indifferently for a very few years, either die off or linger on a wretched existence, the dead branches almost equalling the live ones in number." It also states that "many of the apples are only second or third rate—having germs of decay, black specks, &c." This will doubtless be given as another example of the natural tendency of all varieties to run out from age. Unfortunately, however, for the theory, there are older varieties that maintain all their original vigor. In this country, also, some of the pears that were the first to "run out," happened to be the newer varieties—while some quite old sorts that long ago failed in certain localities still flourish in the finest condition in others. The running out must, therefore, be from other causes than age.

Removing the Wood from the Bud in Budding.

We often receive inquiries on this subject—whether it is best to remove the small woody shield from the interior portion of the bud before insertion, or to allow it to remain. We are not prepared to answer the question with entire satisfaction, and we would like the result of experiments from others, if they have any to report of a distinct character; mere opinion would be of less value. In the early history of the nursery business in this country, when the most successful nurseryman was supposed to be he who had the greatest number of secrets of trade, an inquisitive visitor inquired of a successful tree raiser, "Do you take the wood out, or leave it in?" The answer was, "sometimes we take it out, and at other times we leave it in." This not being satisfactory, the further question was put, "under what circumstances do you prefer to remove it, or to allow it to remain?" The non-committal nurseryman answered, "when we think it would do best to take the wood out, we do so; but when it appears likely to succeed better with the wood untouched, we do not disturb it." The questioner gave up in despair.

Our own opinion is that if stocks are in good thrifty condition, and the buds properly matured so that but little wood need be taken, it makes very little difference, and therefore its removal is needless labor. The practice of most nurserymen corresponds with this opinion. Theory, however, has been adverse to the retention of the wood. For it is a well known fact in vegetable physiology, that all the new wood that is sucessfully formed each season is deposited from the bark *outside* of all the previous wood, and between the wood and bark; consequently, when a bud with a wood face is set under the bark, no new wood is formed or deposited under that face, but only at the *edges*, where the bark rests on the wood of the stock. The wood, therefore, that is allowed to remain, is entirely beneath the new wood, and forms no adhesion to it, and consequently becomes dead and of no use. If we mistake not, however, the same result in substance, takes place when the shield of wood is taken out of the bud, adhesion only taking place at the edges. In cutting out the bud usually, if the shoot is sufficiently ripened, a very small portion of wood need be cut off from it—a very thin shaving, which can scarcely effect the tree at all, after it has grown to be an inch in diameter, or saleable size. The removal of the wood, in some instances, by forming a small cavity, and preventing that perfect fit between stock and bud that must take place when the bud is cut off smoothly and evenly with a sharp knife, may be positively detrimental. In some instances, more especially in budding the cherry, while the stick of buds is green and imperfectly matured, the operation succeeds best by cutting quite freely into the wood, which preserves the necessary moisture and rigidity till adhesion has taken place. Some experienced budders have asserted on the other hand, that the best success is attained only in the season, when the cambium is yet watery, by the removal of the wood; but practice in both ways has not confirmed the opinion. One thing however is certain—that generally the bud does not take so well, and the new growth is more liable to break off, if much wood is taken and left on the bud, especially if it is well matured and hard.

[For the Country Gentleman and Cultivator.]

THE GROWTH OF FOREST TREES.

EDITORS COUNTRY GENTLEMAN—In your paper of Nov. 13th, is an extract from the notes of the editor of the Maine Farmer, on the subject of trimming and pruning forest trees. I agree entirely with the writer in all he says as to *thinning*, but *trimming* and *pruning* is a work requiring too much judgment and knowledge of the habits of trees to be lightly entered upon. For example—the writer says he knows "of several wood-lots where it is the practice of the owners, not only to cut for fire-wood in the fall, such trees as are being crowded in their growth, and are beginning to decay, but to prune in the spring such trees as need to have their superfluous limbs removed." Now if the thinning is properly done, the pruning is unnecessary; but to prune trees in the winter, under any circumstances, is highly injurious, especially to a forest tree, which should have a clear healthy stem from the root upwards. If a tree is pruned in the winter or spring, while the sap is dormant or ascending, the wound remains cankering and festering for months; if pruned in the autumn, while the sap is descending, the wood-forming process being then in great vigor, the wound made by the pruning knife at once commences to heal, and there is no ugly rotten hole left in the tree to mar its evenness of grain, when the time comes to cut it for timber, plank or boards.

The same writer gives an account of the effect of early and annual pruning of forest trees in England, and he mentions "*an oak of* 3 *feet in height, planted in* 1805, *which in* 1832, (*a period of growth of* 27 *years,*) *attained a circumference of* 21 *inches; a beech of* 3 *feet* 9 *inches high, had a growth in the same period of* 27 *inches; an elm of* 3 *feet* 10 *inches, had increased to a circumference of* 32 *inches, and an Italian poplar of* 4 *feet, reached a girth of* 44 *inches.*" This growth seemed to me to confirm an opinion which I have long entertained, that the less pruning forest trees receive, even if it be done at the right season, the better; of single specimen trees planted and reared with care and culture, I have nothing to say.

After reading the article I sallied out among my own plantations, which are of considerable extent, and measured the growth of trees of my own, which were planted as nature usually plants, very thickly, but which have been thinned from time to time as the trees crowded each other, but never pruned. These plantations were commenced in the spring of 1847, most of the trees being less than 3 feet, and none of them more than 8 or 9 feet in height, those above 3 feet being generally white maples. The soil is rough, gravelly and hungry, and the only advantage the trees have had, the ground being too rough for plowing or trenching, arising from their being put into the ground so closely that they protected each other:

	Circumference. Measured 4 feet from ground.
White maples, 1847,	40 to 45 inches.
Rock maples, 1848,	24 to 26 "
Norway maples, 1848,	26 to 32 "
English oaks, 1847,	25 to 28 "
Pin oak, 1848,	31 "
Overcup white oak, 1849,	22 "
White oak, 1848,	19 "
Chestnut oak, from seed, 1849, seedling,	17 "
American elm, from seed, 1847,	32 "
Spanish chestnut, 1848,	33 "
Canoe birch, 1848,	29 "
Scotch larch, 1847,	25 to 30 "
Norway spruce, 1847,	26 to 31 "
Austrian pine, 1847,	25 to 28 "
Scotch fir, 1847,	24 to 29 "
English silver fir, 1847,	28 "
White pine, 1848,	27 to 31 "
Italian poplar,	45 "

I had only time to measure some fifty trees, and I selected the best specimens of each variety, but those planted in the years named run very evenly. The trees which had the most space, at the same time receiving sufficient protection from their neighbors, have done the best in point of circumference, but are of less height; they are all thrifty however, and the gain in wood is probably equal. The English oaks yield an abundant crop of acorns, which the sheep seek for and eat greedily, forming quite an important item in their food at this season of the year. I could never do much in single tree planting; it is, in the exposed situation of my land with an ungenial soil, waste labor; but in masses I can make trees grow almost as fast as corn, and quite as profitably. Any farmer can make a forest, if he will plant his seed in a large bed and let them remain there a year or two, then take them up and set them out in the place they are intended to remain, keeping it enclosed and free from cattle, provided he will plant a tree for every step he takes. R. S. FAY.

Lynmere, Lynn, Mass.

The foregoing facts, kindly communicated by Mr. FAY, will be read with interest, especially by those who are conversant with the changes effected at "Lynmere" by the plantations to which they refer. Over rocky hills, and around the lake from which the place derives its name, on land originally bare and in appearance almost barren, there have been produced within fifteen years past a beautiful succession of groves, in which the wide variety of foreign and native trees alluded to in the foregoing list, are now thriving with all the luxuriance of a forest "to the manor born." Mr. FAY's figures show this growth more exactly than any description would have done, and, although struck by the size and evident thriftiness of the trees themselves, we confess we scarcely supposed they could have reached their present measurements—varying, as will be seen above, from *eight to fifteen inches diameter of trunk.* Mr. FAY's place affords the most extensive example of the kind, with which the writer is acquainted in this country. EDS. COUNTRY GENTLEMAN.

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[For the Country Gentleman and Cultivator.]

PEACH TREE BORER—Egeria exitiosa.

Tansey planted around peach trees to keep off the borer (Egeria) is an error which, twenty years ago, I perpetrated, and to my sorrow, for it is nearly as difficult to eradicate as elder, and has no effect whatever. The best and easiest plan which I have tried is to first cut out the worm in May, (where it has been neglected in the fall;) then bank up the dirt around the trunk from nine inches to a foot high, compressing it with the hoe or spade. Then in the month of October or November, hoe the dirt away, and if they have had the courage to deposit any eggs, they are easily come at, but they seldom or ever attempt it. The rationale of this is that the insect does not like hard bark to deposit its eggs in.

Mt. Carmel, O. T. V. P.

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[For the Country Gentleman and Cultivator.]

A Good Substitute for Coffee.

THE GARBANZO—*Cicer arietinum.*—I have grown the past season, a quantity of the above species of plant, of which I first obtained the seed of Judge A. N. Morin of Quebec, Lower Canada, he recommending it as a good substitute for coffee.

The plant attains the height of about 18 inches, and branches very much. The seed pods are very numerous, being thickly set throughout the plant, and is altogether quite an ornament to the garden. The seed somewhat resembles the "Java" coffee, and when prepared the same as the latter, it is considerd by many nearly equal in its quality. We have given it a fair trial, and deem it a rich, pleasant and healthful beverage—superior to any of the other "substitues for coffee."

It being very productive, it will require but a small space of ground to produce enough to last a common family through the year; and in these "*hard times*" I should deem it good economy to grow enough for our own use. It should be planted in drills two feet apart, and one seed, six inches apart, in the drill. L. NORRIS. *Windsor, Ohio, Nov.* 1862.

PEAR-TREE BLIGHT.

J. Harris, editor of the Genesee Farmer, who is one of the most sound and scientific of our agricultural writers, gave his views at the late meeting of the Fruit Growers' Society at Rochester, in favor of the conclusion to which he had arrived, that the pear-tree blight is caused by a fungus at the root. The subject was very briefly alluded to in our report of the proceedings at the time. Some facts have since appeared in the Genesee Farmer. Although we regard the proof as incomplete, yet on a subject of such deep interest to fruit raisers, every suggestion of the kind is well worthy of attention; and possibly much more truth may be found eventually on the side of this opinion than at first sight would appear probable. The Genesee Farmer makes the following statement:—

> The facts are these: We have a pear orchard of some seven hundred trees, principally dwarfs. Several of them have been planted ten years. They succeeded finely and bore good crops. In the summer of 1860, nearly *one hundred of these trees blighted.* Their places were refilled with new trees the same autumn. In 1861, the blight carried off eighty to ninety more trees, and the vacancies were refilled as before. This year forty or fifty more trees are blighted.
>
> In the adjoining orchards of H. E. Hooker and Joseph Hall, the blight has proved almost equally destructive. About twelve years ago, all these places were occupied with nursery trees, belonging to the firm of Bissell & Hooker. The trees were removed, and the land sold for private residences.
>
> On digging around the roots of the blighted trees, in all three of these orchards, we have found in every case the soil filled with the old roots of the former nursery trees, and *these roots are covered with a fungus or mould.* The soil is literally alive with them. A careful examination, too, showed that the same fungus was attached to the roots of the pear trees. We have found it not only on the larger roots that were partially decayed, but also on the spongioles at the end of the fine delicate roots, that looked fresh and healthy.
>
> Mr. Westcott of this city, who has a nice pear orchard of dwarf trees, has also suffered from the blight; and on examing the roots of his trees, we found the same fungus attached to the roots. The land was formerly occupied with peach trees.
>
> C. W. Seelye also states that his pear trees planted on ground previously occupied with nursery stock, have suffered much from the blight, while his trees on new land are healthy.
>
> [Since the above was written we have examined these trees, and found the fungus on the old decaying roots in the soil.]
>
> These are the facts:
>
> Our idea is that the fungus growing on the old decaying roots in the soil, is taken up into the circulation of the sap by the roots of the pear tree, and that, during the warm weather in summer, it grows with great rapidity, decomposes the sap and causes the death of the branches, and finally of the tree itself.

We commend these statements, and the opinion deduced from them, to the careful attention of fruit raisers, in connection with close microscopical observation. The remaining question is this—if the fungus is *always* found on the roots of the blighted trees, and never on healthy ones, is it the *cause* or the *effect* of the disease?

Diseased and decaying organized matter, very commonly, almost universally, produces the growth of fungus in some of its many species. But some parasitic fungi also attack living rapidly growing plants. A familiar instance is the *rust in wheat*—which close observations with powerful microscopes show to be a distinct, regularly formed plant,—which begins to grow from the *inside* of the wheat plant, and when the weather favors the rust, increases rapidly and bursts the epidermis, and then scatters its dust in every direction. The microscope shows that the seeds of these little plants are so small, that they are readily carried all through the interior of the wheat plant by means of the sap vessels; and it is probable that unless circumstances favor their growth, they may remain without germination, or if they germinate, may grow but little. There is no doubt that innumerable seed of different kinds of minute fungi exist almost every where, and produce "mould," mildew, blight, &c., as causes favor their growth. The curl in the peach leaf appears to commence inside the leaf in the same way; and the leaves of the pear which have been affected with the *leaf* blight, show by microscopic examination a minute fungus of a specific form inside the pulp.

The question occurs—If the pear blight is caused by a fungus, is it developed first on the outside of the root,—or are the minute plants mentioned in the preceding extract, such as have burst from the interior? If the theory is correct, further examination and experiment may lead to a remedy.

HALE'S EARLY PEACH.

This new variety, which has already excited a good deal of interest on account of its extreme earliness, will, we trust, have its character in this respect more fully proved another year. F. R. Elliott of Cleveland, Ohio, where it became first known, stated before the American Pomological Society at Boston, that it was a week earlier than the Early Tillotson, and as large as the Serrate Early York. A correspondent of the Gardener's Monthly, in a late number of that paper, states that he has fruited it two years under very unfavorable circumstances, that it is a white fleshed peach of good size, equal to any peach in cultivation in quality, and from ten days to two weeks earlier than Serrate Early York.

The Tillotson and Serrate Early York usually ripen at the same period, but the Tillotson is somewhat variable, and is sometimes earlier and sometimes later. Various influences will often modify by several days the first single reports of the time of ripening new fruits—witness the contradictory statements of maturity of the Delaware, Diana, Concord, and other grapes; but on the other hand, an old peach tree usually matures its fruit sooner than a young one, and we cannot therefore but strongly hope that Hale's Early peach may give us fine ripe dishes of this fruit before the time that we have hitherto enjoyed this luxury.

[For the Country Gentleman and Cultivator.]

DISSOLVING BONES.

A correspondent of the *N. E. Farmer* asks—"What is the best method of preparing bones, say to commence during the present autumn or coming winter, in order to have them thoroughly dissolved and most available for next year's crops?" In reply the editor says, "We have a lot of bones packed in ashes about four months ago, that are now so soft as to be easily crushed by the hand. We know of no better way to accomplish the end desired than this. They should be kept in a warm place in the winter, such as the cellar. The process is cheap, easy and effective."

We have experimented somewhat in this way with bones, and found the greater share of them to dissolve readily. If very firm they need breaking or boiling in lye, the latter process however would considerably reduce their value as a fertilizer. B.

FEEDING RACKS FOR HORSES.

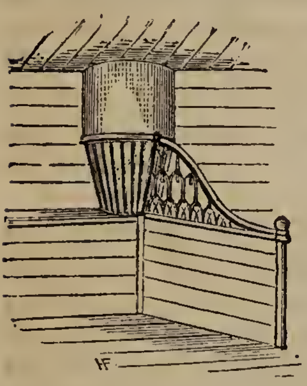
Messrs. Editors—What is the best form of hay-rack for horses? There are two kinds in general use. One consists of slats or rungs inclined against the side of the barn; the other is a deep manger, reaching from the horse's breast to the floor. Both of these, it seems to me, are liable to serious objections. They give the horse the opportunity of *selecting* his hay from the ration assigned him, and according he takes a bite here and a bite there, poking the rest about with his nose, and at the same time continually breathing upon it, so that in a few hours the good hay is all eaten out, and what remains, being of a poorer quality, is rendered still poorer and unpalatable, and consequently worthless, by the horse's breath.

There is another kind of hay-rack which is free from these objections, and I think worthy of adoption. It consists of a four sided box shaped like an inverted pyramid, or like the hopper of a grist mill, though with steeper sides. On one side of this box or hopper, and near the lower end, is a slit about 6 inches wide and a foot long, into which the horse thrusts his nose when eating. The advantages of this arrangement are several. The horse is obliged to eat the hay which is at the bottom of the hopper—he cannot pick out the good and leave the bad, nor poke it about with his nose. He must eat what is next to him, and within a few inches of his eating hole. The hay above being inclosed in a box, is kept clean and pure, unpolluted by his breath, and ready for poney when he shall have eaten his way to it, through what lies under it.

I think with this kind of hay-rack, less hay will be wasted than with either of the others in general use.

What is the objection to this arrangement, and what is the best hay-rack for horses? J. H. P. *Franklin, N. Y.*

Our correspondent has correctly pointed out the objections to a deep manger. The same objection, in part, applies to the common rack placed in an inclined position over the horses' heads. We have occasionally met with the contrivance he describes, and know of no objection to it. Another mode, and somewhat similar to it in its working, is the semi-cylindrical and vertical box, with a nearly verti- rack at the bottom. This was figured and described in the Illustrated Annual Register for 1860, on p. 285. We give the cut here, merely adding that the box when neatly constructed is covered with sheet iron, and the rack is also made of iron bars. [The division between the stalls, also represented, has a cast iron rail and frame, attached to a strong cast-iron post, with plank set in below.]



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[For the Country Gentleman and Cultivator.]

How to Protect Young Trees from Rabbits.

Messrs. L. Tucker & Son—I have noticed several receipts in the Co. Gent. for preventing rabbits from barking fruit trees. I will tell you what has proved effectual with me. Some two years ago the rabbits commenced barking my young apple trees, and also my neighbors' trees. I happened in Waukegon about the time, and as I did not know what to do to prevent them, I applied to Mr. Robert Douglas, the extensive nurseryman, for a remedy, and he told me to mix equal quantities of lard and soot, and rub the trunks of the trees; but on consultation with a neighbor, who advised lard and sulphur, I concluded to mix all three together; so I mixed equal quantities of lard, sulphur, and soot, and applied it, and it proved effectual. On the trees that were partly barked, it stopped them from injuring any more, and they have completely recovered, and healed over. The mixture dried on to the trees, and has protected them since.

The same winter my neighbor had a young orchard of 60 trees completely destroyed, and last winter another of my neighbors had about thirty trees destroyed by them, although he rubbed them with lard and soot; the rabbits eat grease, soot, bark, and all. While they run round in my orchard, and eat all the twigs they could reach, and barked one tree that was not coated with the above mixture, they *never touched a tree that had been rubbed within two years with the lard, sulphur, and soot*, because the remains of it were still there. I think it an effectual protection against rabbits. Try it.

McHenry Co., Ill. ROBERT ANDREWS.

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[For the Country Gentleman and Cultivator.]

Economical Manuring for Spring Grain.

Nature is always abundant in her suggestions, offering continually, means and motives of improvement, if we care to examine and estimate her bounties as they deserve. Whoever may show their regard for her works in leering or or scoffing tones or terms, I shall never therefore be found with them. For as a great poet and competent judge says of himself—

> "A devotee in nature's good old college,
> That's where I picked up my little knowledge;"

so say I. And if I mistake not, more natural and productive methods of manuring will, even during the present generation, take the place of such absurd antiquities as burying, gorging, starving, &c. Nay, even now, surface manuring is rapidly superceding the death (loss) and burial practice in the application of manure.

My farm being but about two miles from as rich and beautiful a prairie country as any in the whole west, (as I have personally ascertained,) and the openings, or partially timbered lands, adjacent and surrounding this district being equally fertile and more beautiful, because more various and attractive in natural products; with such a diversity of soils and modes of farming resulting, affords good facilities for observation, from which comparisons, computations and conclusions may be abundantly, if not correctly derived; and, as I was about to say, a suggestion on the subject of manuring was presented to my mind, as I drove across the prairie a few days ago, which I will now offer for consideration.

Our large wheat crop was, from the coolness of the season, so late in ripening, that when at length it was ripe the labor at command was entirely inadequate to the task of harvesting it before it was too ripe, dead ripe, or in the straw literally dead. The natural result of harvesting a large proportion of the crop in this "dead ripe" condition, was the shedding or shelling of a good deal of wheat, more than usual on the ground, where of course it remained till after the harvest was completed, which in most instances on the prairies, was quite late in September. The wheat thus lying on the ground was beat out principally in cutting, and consequently was somewhat regularly spread over the surface, whence it must of course be turned under when the ground came to be plowed.

Notwithstanding the bulk of them are behind, and this time many of them against their wishes, a few of our more driving cultivators plowed a few days more or less about the middle of September, the rain soon arresting much further progress for several weeks. On the ground then plowed there is now growing, *in the fall*, an excellent stand of *spring wheat*—Fife, Club, China Tea, and other varieties. This will be all killed down, of course, entirely and completely; more so, if possible, than our winter wheat was two years ago. In some instances oats that were plowed in, from similar causes have made a large growth and look well; but they also must share the same fate when their juices are subjected to the killing alternations of freezing and melting, and consequent decay.

The suggestion or inquiry arising from considering these facts, is this: Why may not these crops of spring grain, after they have been disorganized and decayed by those severe alternations of fall weather which spring crops proper cannot withstand or survive—why when killed and half rotted, and in this state remaining on the surface, may not the remains of the fall grown spring wheat and oats *serve the purpose of manure* for the crop which will be sown on the *same* ground in the spring. In brief, why may not wheat and oats be sown on stubble ground, and plowed in at the early fall plowing for manuring spring crops?

Supposing the remains of the fall growth of spring grain can be sufficiently decomposed for the seasonable crop to organize in its spring growth, it appears to me that nothing can be more specially adapted to feed and build up a growing crop of wheat or oats than the identical substances, for the most part, of decayed growth of the same class and variety of plants—wheat from wheat, and oats from oats.

The ground is left as it was laid, in furrows ready for harrowing, when we will suppose two to three bushels of wheat, or three to four of oats, are sown and plowed in about the middle of September. By the 20th of March or thereabouts, the soil is ready for seeding; not having been harrowed, the half rotted and easily divisible full growth will now be harrowed in or mixed *lightly*, or *near the surface*, by some process necessary to the covering of the freshly sown seed. Here it must be fully decomposed and reduced to its smallest component particles in three or four weeks. This seems a certain result, both from decay being already half affected, and because when the favorable proportion of heat and moisture usual in spring, come to act in continuance of the process, it cannot be stayed till the work of disorganization be complete. I infer then, that spring grain sown and plowed in in early autumn, will be sufficiently decayed to feed and build up the *same* or a similar kind of grain sown on the *same* soil in its proper or congenial season—the spring. I do not dogmatize here, but this is my opinion.

If it be thought that some sorts of spring wheat may survive the winter, the same variety that is to succeed it can of course be used, and mixing will be no damage. Or if oats be preferred for reasons of economy, there appears to be no reason why they may not be employed, their composition throughout identical, being similar to that of spring wheat. Oats as a preparatory dressing for oats, would naturally be used; for wheat they might be occasionally. But wheat would supply the most suitable peculiar elements for the structure of similar wheat, beyond doubt. In the appication of this method of manuring, many variations from a given routine are practicable.

In regard to any mechanical objections to this plan, I do not say positively. But as the *top* growth of the *full grown* crop is already dead, and easily broken up by the spring harrowings, I perceive no reason why the roots also, being long since dead, and much decayed and easily reduced to fragments, should offer any serious obstruction to the complete working of the surface soil necessary in spring seeding. The furrows are *not* leveled or broken as when wheat is put in on *corn* stubble without plowing, and I am inclined to believe the surface is *not* so much beaten down and hardened by the fall rains, when protected by a young growth, as when not sheltered at all. The furrows will therefore supply sufficient mold, and it is best to harrow before sowing, one way, and crosswise the next time; in level culture the mechanical objections are few if any. Here I must leave the discussion, but ask for the subject its due consideration. J. W. Clarke.

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[For the Country Gentleman and Cultivator.]

APPLE TREE BORER---Sapperda bivitatus

To keep off the sapperda, or borer, is simply to head the trees low enough to shade the trunk. There is no use of fooling with wires to reach the individual, for his hole is generally so tortuous as to rarely be able to reach him; moreover, they never retire to the woody part of the tree until the damage is done. Soft soap is very good for the body of the tree, but the first rain washes it off, and never reaches the borer. Since I have adopted this plan the borer has entirely disappeared from my orchard. In vol. 9, page 254, I gave my views on the subject of the borer at some length, and I have had no reason to change them since. T. T. P. *Mt. Carmel, O.*

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[For the Country Gentleman and Cultivator.]

Manufacture of Gunpowder and Saltpetre.

The Empire Mills of Smith & Rand, on the Walkill river, Ulster Co., New York, are now running night and day, manufacturing cannon powder. They have just erected at a heavy cost, an extensive building and machinery for the manufacture of saltpetre. As saltpetre is the most expensive part of the composition used in the manufacture of gunpowder, it will be a great saving to them if they succeed in manufacturing their own. It will also be of great importance to the government if we should get into difficulty with England, for we are now nearly dependant on Great Britain for the saltpetere used in the manufacture of gunpowder. The manufacture of saltpetre on an extensive scale, I believe is something new, and is a secret, and Smith and Rand have the patent. They employ a chemist, and potash constitutes one of the articles used in the manufacture.

Gunpowder, as everybody knows, is made from saltpetre, charcoal and sulphur. The charcoal used is burned from willow, soft maple and alder wood, the bark being peeled off previous to burning it into charcoal. The charcoal is burned in large ovens, and ground in a cylinder filled with copper balls which pulverizes it as fine as flour. It is then mixed with saltpetre and sulphur, and put into large pans of cast iron, and is ground and mixed by large cast iron wheels revolving around in the pans, the wheels weighing from four to five tons each. The composition is kept wet while the wheels are running on it. If the composition becomes dry from carlessness on the part of the man in charge of the mill, an explosion takes place, which generally results in killing the man or burning him very badly. From those wheel mills the composition is taken and pressed in cakes half an inch thick, by powerful hydraulic presses. The cakes are then put through a cracker and broken into grains; the grains are put through sieves and separated the fine from the coarse, when it is glazed and put into a building, heated to 90°, and thoroughly dried—the pressing and drying being the most essential part in the manufacture of powder.

It is then put in kegs of 25 lbs. each, and shipped to all parts of the world. The kegs are varnished, which renders them water proof. Since the rebellion broke out, they have taken large contracts from the government for cannon powder. They use all the latest improved machinery in their mills, and have invented and put into use in their mills machines that considerably lessen the labor of the hands employed, which enables them to manufacture double the quantity of powder with the same force.

Smith & Rand are bits of farmers by the way. They have a farm of about 200 acres adjoining their mills, which, if they continue to apply the refuse saltpetre, and the ashes made in the burning of the charcoal, will soon be in a high state of cultivation.

I have extended this article longer than intended, but I think the readers of your valuable paper may be interested a little to know something of the process of manufacturing an article that has been for some time used in this country to such an enormous extent and has sent thousands of noble souls to a soldier's grave.

Rosendale, N. Y., Nov. 17, 1862. S. P. KEATOR.

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There is no day so delightful as the day that is useful; and no week is likely to pass so serenely as the week whose first day is doubly hallowed by devotion and beneficence.

A Scientific View of "the Progression of Primaries."

Eds. Co. Gent.—Professor J. J. Mapes is vigorously advocating his doctrine of the Progression of the Elements of plants and animals; and, as I see from a late number of your paper, he claims it as an important item in the late developments of Agricultural Science. As I differ totally from Mr. Mapes in regard to the value of this doctrine, allow me to set forth in detail the reasons for disallowing it.

In the Nov. No. of the Working Farmer, it is asserted, page 242, that

"this globe was once a mass of rock, and without either soils or inhabitants of any kind; that the same constituents existed then as now: nothing has been added and nothing taken away; but in the mean time matter has been configured into men, animals and plants, aud the God of nature has thus endowed matter with new functious not before developed, and this change is called PROGRESSION, of which chemistry can take no note beyond the mere recognition of groups of proximates, the process of the creation of which is beyond the powers of the laboratory to define. and the comparative values of which can only be known by observation apart from analyses."

The doctrine of Chemistry acceded to by all who, to my knowledge, have expressed an opinion, Prof. Mapes alone excepted, is quite opposed to the above. It is as follows, viz: At the creation, matter was endowed potentially with all the qualities and functions that can be developed in it. The powers of matter are not modified by its entering into an organism, either vegetable or animal, but the organism exhibits qualities that are strange to mineral substances, because it is a different combination of different elements. Again, when an animal or vegetable is destroyed by fire or decay, and is resolved into carbonic acid, water, ammonia, phosphates, sulphates and chlorides of potash, soda, lime, magnesia and iron, these substances thus produced have properties identical with those found in the same combinations originating in whatever manner, provided they are in the same *physical* condition.

It is true that "feldspar rock, containing 17 per cent of potash, is not as valuable as a manure as wood-ashes containing the same amount of potash;" but this is due firstly to the fact that in the wood ashes exist all the fixed ingredients of vegetation, while in feldspar there are of these only potash (soda) and silica; and secondly, the potash of the ashes is readily soluble and therefore available to growing plants as carbonate, &c., while in feldspar it is united in an insoluble and difficultly decomposable combination with silica and alumina. The chemist believes that if by processes with which he is familiar, the potash of the feldspar be extricated from its combination with silica and alumina, and converted into carbonate, it will and must be as valuable and grateful a nutriment to plants as that potash derived immediately from the blood of the most progressed man of the century. There is not to my knowledge a single fact on record which invalidates this statement of mine—much less one which in any way sustains that of Prof. Mapes.

It is true that

"if the ultimate analysis of wheat should chemically accord in composition with the analysis of a rock or soil. it does not prove that the rock or soil would assuage hunger like the wheat, or have a similar value as food;"

but not for the reason that

"the constituents of the wheat are more progressed, and therefore may be assimilated by men, animals or plants, while the same constituents taken from the rock would, if eaten, be voided as excretia, without assimilation;"

but because the constituents of the wheat exist in soluble and assimilable combinations, while those of the rock are unattackable by the digestive organs of animals, and insoluble in water, which is the medium whereby plants receive food from the soil.

Mr. Mapes asserts that

"The decay of lichens, mosses, and the lower order of plants does not at once furnish food for most advanced plants, but by re-assimilation,in plant-life, they are rendered capable of feeding higher classes of plants, and eventually those on which animals may be fed."

This assertion has no proof. The fact is that the decay of the lower orders of plants does furnish *at once* food for the highest orders of plants, and this as good as they can anywhere procure. Mosses, lichens, and the inferior plants, do not indeed furnish all that higher plants require, or in the proportion they require, so that the results of the decay of 100 lbs. of moss will not supply material to grow 100 lbs. of wheat; but all the lime, carbonic acid, potash, phosphoric acid, &c., yielded by the decay of mosses or lichens will answer the needs of growing wheat as well as an equal quantity of these ingredients respectively, derived from any source Mr. Mapes may name.

Several years ago Prof. Mapes was reported through the N. Y. Tribune to have said at a meeting of the Farmers' Club as follows:

"All mineral substances, whether carbonate of lime, phosphate of lime, sulphate of lime, potash, soda, salt, or other constituents of plants, are valuable in proportion to the source from whence they are derived. The higher the organization of animal or plant, the more valuable the mineral obtained. The mineral phosphatic rock, which gives by analysis the same results as calcined bones, is worthless for manure, and a quantity of carbonate of lime from the pure limestone given to a field equal to two per cent. of the soil would render it barren, while forty per cent. of the same mineral exactly, according to analysis, is extremely fertile. The cause is, one has never undergone and change since its deposit, and the other has passed through a long course of organized life."

It happens that we can adduce several experiments conducted in such a way as to prove incontrovertibly that the above is totally false.

On referring to the Journal of the Royal Ag. Soc. of England, vol. 6, pp. 329–333, the reader will find an article by Dr. Daubeny, "*On the use of Spanish Phosphorite as a Manure.*" It is well known that Dr. Daubeny and Capt. Widrington visited the Phosphorite locality of Estremadura in 1843, for the purpose of ascertaining if a substitute for bones might be procured thence. They brought a quantity of the mineral to England, and in order to test its value, Dr. Daubeny made the following trials with turnips on a plot of land in the Botanic Garden at Oxford, which had been "cropped for ten or eleven successive years without the application of any kind of manure."

Field of turnips per acre, in lbs.

	Roots. lbs.	Tops. lbs.
Unmanured,	14.298	30,591
Bone shavings. 10 cwt. per acre,	19.239	35,210
Spanish phosphorite, 12 cwt.,	28.639	42,016
Spanish phosphorite with sulphuric acid, 12 cwt.	30,869	34,476
Bones with sulphuric acid, 11 cwt.,	31.898	44.421
Bones finely powdered, 12 cwt.,	36,185	45.446

Of these results, Dr. Daubeny remarks, "the Spanish phosphorite, especially when its action was quickened by the addition of sulphuric acid, proved *nearly as efficacious* as bones themselves, unless indeed when the latter were very finely powdered." These facts scarcely sustain Prof. Mapes' assertion, that "the mineral phosphatic rock which gives by analysis the same results as calcined bones, is worthless as a manure." On the contrary, we find that the Spanish phosphatic rock which occurs in granite, and has not been "progressing" for a good many thousand years, is *nearly as efficacious* as bones themselves.

These results of Dr. Daubeny are not however entirely satisfactory, for the reason that the phosphorite is compared with unburned bones, the animal matters of which could hardly fail to exert much influence on the crop. Fortunately for our argument, Sir H. Verney also made a series of experiments in which the effects of phosphorite were compared with those of burned bones. These trials are reported in the same vol. of the Journal of the Roy. Ag. Soc. pp. 331–333. The field was a "heavy sandy loam resting on a clayey subsoil." The plots which were wheat stubble, were prepared for a green crop in the spring of 1844; the various fertilizers were applied, and the field planted with mangel wurtzel. The drought of 1844 was so severe that the crop came up poorly, and the result was destitute of any value. The next summer, after digging the plots, barley was sown, and the season being good the results were as follows:

	Manure per Acre.			Produce.		
	Tons.	cwt.	qr.	qr.	bu.	pks.
Unburned bones,	1	7	0	5	0	0
Burned bones,	0	18	0	5	3	2
Superphosphate of Lime,	1	5	3	5	6	3
Spanish phosphorite,	0	18	0	5	3	2
Spanish Phosphorite & Sulphuric acid,	0	18	0	6	3	2
Nothing,	0	0	0	3	6	2

Here we see that 18 cwt. of phosphate rock produced a result equal to that given by the same amount of burned bones, and that 18 cwt. of a superphosphate made of phosphorite gave a higher yield than 1 ton 5 cwt. of a superphosphate made in all probability from bones.

The *facts* adduced by Prof. Mapes to maintain the theory of progression are all capable of explanation on received principles, and when fully understood do not indicate any such progression as he claims, but quite the reverse. Most of his statements, however, like that regarding the relative fertilizing value of phosphatic rock and bones, are not facts, but inventions or assumptions.

When the Professor asserts that

"chemistry, as at present understood, can take no cognizance of FUNCTION OF CONDITION,"

he simply exhibits his ignorance of "chemistry as at present understood." Chemistry can and does take cognizance of *condition*. It teaches that phosphate of lime in the shape of Hurdstown phosphorite, or as crystalized apatite, is not available to plants with that rapidity which is needful in an active fertilizer, because of its density and consequent difficulty of solution. Chemistry knows how to produce apatite artificially, shows how to convert the soft, porous, and therefore soluble bone earth into the dense and crystalized apatite, and teaches that this artificial apatite, though the bone earth from which it is made may have been progressing in Prof. Mapes' sense from the dawn of life down to date, becomes equally inefficient with the native apatite when it is crystalized in the same dense condition. Chemistry also teaches that the dense apatite, or the denser Hurdstown phosphorite, by solution in an acid, and by reprecipitation is made as soluble, and in all respects as useful, considered as food for plants and animals, as any other phosphate, whatever be its source or origin.

In the course of his argument Prof. Mapes asserts "that some of the metals occasionally take on *conditions* which the chemist cannot detect," and asks:

"What chemist can decide between two pieces of pure wrought iron, by analysis, which will make good horse-shoe nails, and which will not? Every blacksmith knows that such differences exist."

Now it is certain that the chemist cannot detect any difference by analysis in two pieces of *pure* iron. It is equally certain that two pieces of pure wrought iron will both make good horseshoe nails, and no blacksmith can show the contrary. It is, however, the fact that two pieces of iron, which are *apparently* alike in purity, may be different in malleability and toughness, and when this is the case the chemist can tell the difference.

Here is another "fact" which furnishes an analogy for "progression:"

"Occasionally a blacksmith finds that a bar of iron will not work kindly on the anvil, and lays it aside in consequence; this same piece of iron at another time seems to have greater ductility, malleability, etc., and may be used to advantage; can these different conditions of the same piece of iron be ascertained by analysis?"

To this the only answer needed, is that analysis is certainly quite incompetent to ascertain conditions which merely *seem* to be, and are not!

Mr. Mapes further asserts that

"even among the ordinary remedies prescribed by physicians, many may be found which are inert, simply because they are taken from unprogressed sources, and cannot be assimilated by the human organism. We were answered a few days since, by a young chemist, that it was only in cases where the materials were in an insoluble state, that they proved medicinally inert, etc.; this is not true. Epsom salts are always soluble, and yet that made from treating magnesia with sulphuric acid, the former being taken from two different localities and of equal purity, as decided by analysis, differ materially in their effects on the human stomach; and it is equally true of hundreds of other medical preparations. The prot-oxyd of iron taken from the blood of a man, has powers not to be found in the same material, chemically considered, from lower organic sources. Every animal, man included, assimilates so much of his food as is progressed to his status, and rejects, as excretia, that which is not so progressed. The same is equally true of plants, the quantity presented for assimilation not being in excess of requirement."

The readers of the COUNTRY GENTLEMAN may rest assured that the different effects of Epsom salts taken into different stomachs or into the same stomach at different times, depend upon something else than the *origin* of the purgative. If the salts do not "progress," it is not because they have not been progressed before, but because of a *condition* of the patient.

As to "the powers of pro-toxyd of iron taken from the blood of a man," it is worth while to know that there is not a jot or tittle of proof that there is any pro-toxyd of iron in blood at all.

If chemistry is undecided as to the form in which iron exists in the blood, what may Prof. Mapes be presumed to know of the powers of its pro-toxyd when taken from that fluid?

I have elsewhere called this Theory of Progression a "vagary," and a "contemptible piece of quackery." If any one thinks such a verdict too severe, I should be most thankful for a single argument or reason that would warrant a change of opinion. SAMUEL W. JOHNSON.

Sheffield Scientific School, Yale College, Nov. 20, 1862.

[For the Country Gentleman and Cultivator.]

LONG-WOOLED SHEEP.

MESSRS. EDITORS—"Hawk-Eye" wishes to know whether "a white face and nose is an essential mark of purity of blood in Leicester or Cotswold sheep." I answer it is not—on the contrary, a *strictly* white face and nose would create doubts at least of purity of blood, especially in the Leicester. They are both favorite breeds with me. I have heretofore bred the improved Cotswolds, and "improved Kentucky sheep," exclusively, but I have watched other breeds closely for several years, and have come to the conclusion that the Leicester ranks next, if it is not equal to the Cotswold in point of profit to the farmer—which I take it is the great object aimed at by nearly every body.

I attended the Provincial Fair in Canada West, held at Toronto this season, for the purpose of adding a few choice animals to my flock of sheep, if I should be so fortunate as to find them. I need scarcely say to those familiar with Canadian exhibitions, that I experienced no difficulty in finding better than I had at home; nor do I consider that I do any discredit to my own flock when I make the admission. To say that the show of sheep was surpassingly fine, far excelling that of any of our State or United States fairs that I have ever attended, (and I have attended many,) would be but simple truth, and might not be considered much of a compliment by those who do not prize long wooled sheep as highly as I do—for this great show was confined almost entirely to Cotswolds and Leicesters—scarcely any South-Downs or fine wools were on exhibition. Long wools are the sheep of Canada, and bred with an apparent skill not common among our sheep breeders in the States.

For the benefit of "Hawk-Eye" I will say that in Canada, as elsewhere, I did not observe that "*white faces or noses* was any evidence of purity of blood" among the long wools. But he should understand, however, that the face must not be black, like the South-Downs, but a sort of speckled mouse color—better described as a color peculiar to those breeds, a little *darker* than a *white*.

The Cotswolds and Leicesters are now so nearly the same, that they should not have separate classes, but all exhibited as long wools. Almost the only distinguishing mark in many instances is a somewhat lighter face, and a small tuft of wool always present on the crown or forehead of the Cotswold, and always *absent* on the Leicester. Formerly there was an apparent wide difference in the chief characteristics of the two breeds, but later improvements, produced by judicious crossing of the two have made changes in each very like the other, and yet both greatly improved, giving us fine stately sheep, weighing at two years old in breeding condition, from two hundred and fifty to three hundred pounds, covered with immense fleeces of wool, and altogether in general appearance models of style and beauty. I. D. G. NELSON.

Elm Park, Indiana, Nov. 20, 1862.

P. S.—I omitted to mention in reply to "Hawk-Eye's" inquiry, that pure Leicesters and Cotswolds should never produce black lambs: but it is so easy to get a little tinge of other blood in your flock, that it may occasionally "crop out" several generations after. In South Downs it may occur more frequently for aught I know, as they are reputed to be of "African descent," or more properly speaking, perhaps, of black parentage. N.

[For the Country Gentleman and Cultivator.]

WINTERING BEES.

Editors Country Gentleman—During the close of the past, and also the fore part of the current year, considerable correspondence appeared in the columns of your weekly, on that important branch of bee-keeping, to wit: "*The management of Bees during Winter.*" One of the most able of those correspondents, in the No. for Feb. 27 says: "Next fall I will endeavor to send you some good systems of out-door wintering, the best that can be adopted." This gentleman it seems, has not as yet gratified your bee-keeping readers with the information he claims to possess, and which they really stand in need of, if they do not discard such "systems" and adopt a more judicious method, that of in-door wintering.

I am aware that the worthy President of our "Bee-Keepers' Association," (Dr. Kirtland,) a gentleman uncommonly sensible, and of great attainments, also a practical bee-keeper, thinks that bees do as well or better out of doors in their thin wooden hives, protected from northern and eastern winds and hot suns. However, he would attempt to winter none other than strong colonies, which have large stores of honey and bee bread. With such a stock, having due care, he "looks upon bee houses, bee-cellars, and the burying of bees, as at least superficial." Of this, when applied to a mild climate, there can be but one opinion, and even in cold climates it cannot be disputed that such colonies receiving such care, possess all the conditions to enable them to endure the most rigorous winter generally unharmed. On the other hand it cannot be denied that in cold climates, the consumption of honey by a colony of bees when wintered out of doors, is much greater than when otherwise cared for. This excessive demand of honey is occasioned by the excitement produced by the variableness of the raw atmosphere, whereby the bees are kept continually exercising to maintain an even temperature, and of course the more arduous the exercise, the more food they require.

Bees, when kept at a uniformly low temperature, remain nearly torpid, requiring but very little honey. Hence this state of stupor is the *desideratum*, and the chief end and aim in systematic bee wintering.

It should ever be borne in mind that the honey bee is *not* a native of northern climates—that it is counter to her original instincts to dwell therein, confined by stress of weather to its hive for months. The climate most congenial to the bee is one which combines great warmth, with sufficient humidity, producing the most abundant secretion of nectar drops from the millions of flowers that retain their freshness in such climes. How far north it can live, is not yet yet ascertained. In Sweden, it still affords a surplus of honey. In the United States, Texas is the best adapted to the bee and bee-keeping; for instance, in Western Texas *good* swarms yield from 100 to as high sometimes as 200 pounds, depending somewhat on like circumstances that influence the yield in colder regions. Bee-keepers should bear in mind that many of these circumstances are within their control, such as suitable hives, proper *protection during winter, and vigilant attention at all times.*

The farther we recede from this favorable locality into northern latitudes, the more strict and arduous is the attention required. Hence bees, while out of their native regions, require different domestic treatment—imitating in *effect* by artificial means, their natural climatic condition. To attain this, each hive must be secluded from the external atmosphere, which may be done in various ways. The most effectual way is to bury them with earth. Not, however, by depopositing them "in *holes* in the ground," in any and every situation, but by *securing them from wet and damp.* A dark, dry cellar forms likewise good winter quarters. The hives should not be transfered to any dark repository until the weather is *cold;* and the removal should be done as quietly as possible. Moreover, jarring, moving, or in the least disturbing them when thus quartered, should be scrupulously avoided. Otherwise their need to fly and empty their abdomen will be augmented, and if they be disturbed very much they thereby digest the more, and the desire to evacuate is awakened, which might become intolerable, and death the result. This, [and the need of *water*, also,] is why protracted confinements, (the result of climate,) are so unnatural and mischievous to bees. Hence the immoderate consumption of food while so confined, is not only a waste of honey, but actually endangers their lives. Hence the proper and only correction or safeguard, is to render their condition such that they will require a comparatively small quantity of food—making a very little suffice.

In conclusion, I would admonish brother bee-keepers in cold climates like this, that if their aim is to render that lucrative branch of industry successful in the highest degree, one or more of these three systems *must* be adopted.

Richford, N. Y., C. J. ROBINSON.

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[For the Country Gentleman and Cultivator.]

A Word Concerning the Register, Curculio, &c.

Messrs. Editors—I received the ninth number of the Annual Register of Rural Affairs last week, and can conscientiously recommend it to all lovers of rural and domestic reading. I deem Dr. Fitch's entomological essay alone, worth more to any farmer or fruit grower, than five times the price of the book, provided they are not familiarly acquainted with the science. The insects illustrated are very accurate indeed, so much so that almost any one could identify the natural insects destructive to fruit trees and grain crops generally, by comparing them with the well executed cuts laid down in the Register of 1863. Dr. Fitch is a very plain and able spoken man, having done a very great deal of good in the State by placing his valuable essays before the public, through the Country Gentleman, Agricultural Reports, &c.

The Doctor says in the Register, speaking of the curculio, that "the earnestly awaited first mark of the Curculio has not appeared on my young fruit trees this season;" and farther adds, "what has caused the curculio to thus vanish, I am unable to conjecture, nor do I yet know whether it has similarly disappeared over the country generally." I would state that they have not. These little pests have been much more numerous the present year in the central part of Duchess county, than I ever knew them before. I have been in the habit of practicing the "jarring process" for many years, in the meanwhile having found no other remedy so effectual; although I am of the opinion that dusting air slacked lime over the young fruit pretty plentifully, will have a tendency to prevent the curculio's ravishing attacks; and by sowing it, mixed with a small quantity of fine salt, beneath the trees, destroys a great number of those young insects of various species, which lie very near the surface of the ground. This composition being a very strong fertilizer, it renovates rather than destroys, by keeping the trees in a healthy state. Yet this may be all my own supposition or imagination. I do not give it as a real or effectual remedy, neither do I recommend it to others, but can safely say that I have practiced it with some very good results. And to give you an illustration of this fact, I am compelled to say that we have not failed in raising a good crop of plums, more or less in number, owing to seasons, for ten years, during which time I have experimented with various remedies recommended in agricultural papers and through other sources, but find none so effectual as the process above mentioned, in connection with spreading sheets under the trees and jarring the curculio off upon them, and putting an end to their existence by a pinch between the thumb and forefinger, which is the quickest and most convenient way of exterminating them. This latter process proves a perfect success when all others fail. In this way I destroyed one thousand five hundred and one of these weevils the past summer, all of which I caught from a few plum trees, with a very few exceptions—finding less upon the trees that had lime sowed over the fruit, than those which had been left for nature to protect. Notwithstanding, every tree was treated just a like so far as jarring was concerned, and all the young fruit picked up and either burned or fed to the swine, the former being most commonly resorted to. But it seems to me if this vast number of insects had been let alone, without showing any sort of warfare towards them whatever, there could not possibly have been a plum remaining upon the trees to ripen; but luckily we raised a splendid crop of very choice plums—twenty-six varieties of which I exhibited at the County Fair, that more than doubled in number the list of any other competitor. C. R. C. Masten.

Prospect Hill, Duchess Co., Nov. 16, 1862.

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BENEFITS OF UNDERDRAINING.

Hon. A. B. Conger, chairman of the Meetings held during the recent State Fair at Rochester for Agricultural Discussions, communicates for the Country Gentleman the following summary of the conclusions arrived at, at one of these meetings, on the important subject of underdraining:—

1. The principal benefit to be secured to the farmer, by underdraining, lies in the more *thorough tillage* he is able to give his *arable* land; yet instances are not wanting, where *pasture lands* are very profitably improved from what may be denominated the *primary* or simple method of draining.

2. In the discussion of this subject, soils are properly divided into those which produce, to a greater or less extent, *aquatic*, and those which bear the *cultivated grasses*; the former being nearly destitute of nitrogen, or the flesh-forming principle.

3. As the supply of nitrogen for plants is mostly derived from the atmosphere, soils not possessing the natural or artificial means of drainage for the surface water, or that welling up from stratified subsoils, are unable to allow the atmospheric air to circulate in them, and cannot absorb any portion of its nitrogen, and are generally regarded as barren or waste land.

4. The average annual fall of water in the State of New York, in the form of rain and snow, is within a fraction of three (3) feet, of which only one twenty-fourth (1.24) is appropriated by plants; seven-twelfths (7.12) pass off by evaporation, and three-eighths (3.8) are carried away by water-courses, either open or moving beneath the earth's surface.

5. Where these water courses are deficient in number, imperfect in flow, or obstructed in their outlet, the first essay of the drainer is to remedy these defects; and where the adjacent land is porous in its character, as in the case where sandy particles predominate, the simple ditch, judiciously located, is sufficient to provide for the escape of all surplus water.

6. Where, in addition to the annual supply from the skies, the soil is saturated with water boiling up from the stratified subsoil, or underlying or adjacent rocks, it is then expedient by *boring*, to conduct the excess of this supply to the main ditch directly, or by lateral drains leading into it.

All these methods may be classed under the primary method of drainage.

7. In soils deficient in, or wholly deprived of, sandy or porous constituents, the escape of the twenty-three twenty-fourths (23.24) of the rain and snow fall is retarded, the average temperature of the soil is lowered by six and a half degrees (6½°) of Fahrenheit's scale, equal to seven degrees (7°) of higher latitude, and the water forced up from the fissures of adjacent stratifications (if any there be,) make the receipts of a more thorough system of drainage, which may be styled the secondary or complex method.

8. In proportion to the density and tenacity of the soil, ditches must be dug at intervals varying from twenty-five (25) to fifty (50) feet apart; and in order that the plowing and laying down of the land may be effective, the ditches must be covered; and this has inaugurated the system of tile draining, at an expense of from twenty ($20) to forty ($40) dollars per acre, rendering land, previously of but little value, capable of the highest production.

9. This, however, can never be fully realized, unless the draining is followed by the deepest plowing, not only by the ordinary, but by the subsoil plow, and also by a system of high manuring, which shall supply not only nitrogenous manures, and those rich in the mineral food of plants, but also those which abound in carbonaceous material, and will insure a perfect æration of the soil, and prevent its subsidence to its original compact and impermeable condition.

Care, however, should be taken that none of these several materials should be supplied in excess; and economy requires that neither should be added to soils enjoying it naturally in sufficient amount and in a soluble form.

10. The draining should only be undertaken after a careful *survey* by a competent person; the drains should be accurately delineated upon a map for future reference; the tiles should be laid on an uniform grade, so as to avoid sags in which silt might accumulate; the outlets should be as few as possible and carefully guarded, and, in some cases, with traps, to prevent their stoppage on the entrance of vermin.

11. As illustrative of the vast importance of this subject to the farming interests of the State of New-York, it is believed that but a comparatively small portion of its arable land possesses a good natural drainage; a large proportion has this, but in an imperfect degree; and probably ——* per cent has none at all, but demands a thorough application of the methods of the secondary system of drainage.

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[For the Country Gentleman and Cultivator.]

Ventilation of Stables.

While many farmers ventilate too largely, others do not ventilate enough, and some not at all. A moment's reflection will convince almost any one of the great importance of furnishing animals with a good supply of pure air. When we go into a stable, and the ammonia arising from the manure makes our eyes smart, or if the air appears at all impure, we may rest assured that there is a deficiency of pure air, and the health of animals will be seriously affected, if ventilation is not more perfect.

I frequently step into the stables of hotels, and in the morning the stench and impurity of the air is enough to sicken a healthy horse in one hour. It is no wonder at all that there are so many sick horses, where so large a number are confined within a small stable, where ventilation is very imperfect; but it is a great wonder that they do not die right out, from being confined in such impure apartments.

Impure air in stables always rises to the upper side of them. Therefore, if there be an opening over head, the foul air will escape, and pure air will take its place; whereas, if there are nothing but small cracks, or other apertures in the sides of the building, the air will become very foul in a short time. Let the cracks be well battened, and let the doors be fitted tight, and then cut a hole from three to four feet square in the floor over head; and if the building is not a spacious one, there should be a ventilator at the top of the roof. Stables should have windows, also, in the sides, or behind the horses, for admitting the light, and which may be thrown open when the weather is not freezing cold. When the manger or rack is formed against the outside of the stable it is a good arrangement to have a small dark window before each horse, which will slide open and shut easily, so that each horse may thrust his nose out when he desires, and inhale the fresh air.

Great caution should be exercised in ventilating stables, that the animals be not exposed to a current of cold air. Currents of cold air should never be allowed to enter a stable through large cracks in the floor, as horses will most assuredly contract cold when thus exposed. When the weather is not freezing cold, windows should be opened, and sometimes the doors also. S. E. Todd.

LOW FARMING IN GERMANY.

[The following letter on the common farming of Germany, is written for the COUNTRY GENTLEMAN by Mr. WILHELM VON LAER, Secretary General of the Provincial Agricultural Union, at Munster, Prussia. It will be read with much interest, and its statements, we need scarcely add, may be received with entire confidence. We are happy to be able to promise our readers during the coming year some farther letters from Mr. VON LAER, who will please accept our thanks for the two already received, the remaining one of which we shall publish at an early day. As Secretary General of the Provincial Agricultural Union of Westphalia and Lippe-Detmold, Mr. VON LAER edits the "*Landwirthschaftliche Zeitung*" published under the direction of that society at Munster. Some copies of this sheet were received by us several months ago through the attention of Messrs. E. H. REEVES & Co., 185 Water-st., New-York. It is in its 19th year—is issued in weekly numbers, of eight pages each about two-thirds the size of ours—and its subscription price, if we understand the terms correctly, is 30 *silver groschen*, or about 75 cents, a year. Its contents are of a practical character, and it can scarcely fail to accomplish much good among the farmers of Westphalia and the surrounding provinces. EDS. CO. GENT.]

EDITORS COUNTRY GENTLEMAN—American farmers are sometimes led to believe that in the old settled districts of Germany, agriculture has attained a high state of perfection, and that every foot of soil is highly cultivated and made to yield crops up to its full capacity. Travellers naturally are attracted by the bright side of things, and their reports frequently generalize. There are indeed on this eastern continent, many districts that have during the last 30 years made wonderful strides towards perfection, and on many single farms the practical management is a fair illustration of the progress of science. But the great bulk of our farmers are still backward, and the sum of agricultural produce in the country would yet be doubled, if farmers generally would set their brains to work as well as their bones. Let me give you a few illustrations of this assertion.

It is a common saying here, that money and manure never hold out long enough. Every farmer will tell you, that if he only could get manure enough he would show you how to raise crops; every farmer will be very saving and economical when he comes to hauling out and spreading his manure. I frequently have found a sort of superstitious faith in the effects of manure. At the same time, the vast majority of our farmers allow their manure to waste and deteriorate in a shocking manner, while in the barn-yard. If on a rainy day you pass a village, (dorf,) you will see the water from every roof run directly upon the dung-pile—no provision to carry it off. You will see the manure drowned in a pool of dark brown water, and the latter run off. If the farmer is a good husbandman he will cut a ditch, or have the water thrown out into the road-ditch. If he is careless, his yard will become a mud-hole. I could show you fifty villages in one day, where this state of things prevails in various parts of the country, north and south. This horrible practice forms the rule; good husbandry is still an exception. If we should go to 100 average farms, we should not find five among them who treat their barn-yard manure exactly right, by having a properly built and paved receptacle with tank, and protection from rain-water; 30 per cent. might have moderate arrangements, and about 65 per cent. would be in the most shiftless state. Still there are whole districts where a better state of things prevails, and many farms where the whole of the manure is kept covered by roofing, and properly treated. Our agricultural societies frequently offer premiums for improvement in barn-yard arrangements, but their premiums often cannot be distributed for want of an object. A small infusion of Yankee spirit into our farming population would work wonderful changes.

The best standard for a farmer's thrift is the appearance of his stock. Now we have splendid grazing districts in our river-bottoms, and there we find beautiful animals polished by good keeping, and we find rich and intelligent farmers. We also find excellent and well filled single stables scattered on the upland. But again, the majority of cows are poorly kept. Great improvement is going on in this branch; fine stock is being bought and imported continually, but more than one score of years will yet elapse before sound rules of husbandry will be generally observed.

Let me tell you how thousands of independent farmers here still keep their cattle. First, they keep 25 per cent. more than they have a sufficiency of feed for. Many small farmers yoke their cows, and make them do all their farm-work—plowing, harrowing, hauling, etc. I could even name whole townships in which not a single ox or horse is kept. Every man raises his own calves; good bulls are scarce, and nobody wants to pay for their use. Let me repeat again, that there are honorable exceptions to this practice, but the latter forms the rule. Go to a fair where perhaps 800 head of cattle are put up for sale, you will scarcely find 100 good ones, unless it be in one of the better districts. The large majority of the cows are small and weak; the head is out of proportion, coarse and large; breast shallow and narrow; hips high and peaked; back strongly bent; belly flat; back part short and falling off; hide and hair coarse; milk-vessels not developed. And how can it be otherwise? The calf receives only for two or three weeks a stingy allowance of the mother's milk; afterwards, buttermilk mixed with cold water, and a little meal stirred in; in addition, hay. So the calf is kept a whole year in a dark stall, which is ill-ventilated in summer, and cold in the winter. The calf has no exercise until a year old; it is taken to taken to the commons, (village pasture,) where feed is generally poor and insufficient. The second winter the young animal is kept mostly on straw with a little hay, and sometimes a scanty allowance of kale leaves and oil-cake water. In the spring she has her first calf. Every winter she barely gets through alive, and in the spring we see whole herds of mere skeletons trying to smell the young grass before it can be seen. The cows are in the morning driven with empty stomachs to the commons, which are are generally overcrowded, and only fed an additional feed at noon and in the evening. The result is that the average yield of milk is only three and a half quarts per day, that the cows dry up too soon, are always thin, and sometimes exceedingly so; that they can never be fattened, and their manure is of poor quality, and not much at that. The result of the whole is, that there is no profit in the keeping of stock, and the cows are called a necessary evil. So 75 per cent. of our farmers do call them. Now tell me if we Europeans have a right to throw stones at your western men, who let their cattle run out all winter, to seek shelter in fence corners and lick snow to satisfy their thirst?

One of the greatest drawbacks to good farming, is the scattered situation of many farms. A foreigner will shake his head and perhaps doubt the truth of my statement, or think I am generalizing exceptional cases. But the fact is, we have whole townships, and a very large number of them,—and have them in the north and the south, on the borders of the Rhine, on the Weser, in Bavaria and Saxony—where the most deplorable scattered state prevails. I know a man that owns altogether 90 acres in one township, which are scattered in 145 different places; to many of his fields he can only get over his neighbor's field—consequently if his neighbor sows oats, he must sow oats too, or else he must leave his rye in the field till after his neighbor's oats are harvested. I know a township, which consists of 18,000 acres of farming land, divided up into 22,325 different parcels, although the number of proprietors is only 85. I could give you hundreds of such instances; and now tell me, how can a man farm well under such circumstances? And can anybody grow fat on such split-up soil, except he be a lawyer? I repeat once more, that I do not intend to draw a picture of the country as a whole, but only mean to describe a few of the shady portions.

You ask how such a state of affairs came to grow up. Let me give you one sample. Two hundred years ago one man, himself a member of an old family, owned a fine estate of about 1,200 acres. The farming land, according to the usage of the time, was ridged up into strips each about 30 feet wide, to facilitate the surface drainage. He had two sons, and wanted both to share equally in his estate. So he divided between the two by giving each one alternate pieces. In this way each one received 600 acres in perhaps 200 or 300 parcels. Now if each of the brothers had left six heirs, and divided amongst them in the same manner, we should have the once coherent estate split up into 4,800 pieces during two generations. Well we laugh at such proceedings, but we might as well cry. For by such practice 100,000 freeholders that might be well off and in easy circumstances, are hopelessly tied down in poverty and apathy, and the national welfare is crippled by such senseless management. We are trying to change this state for the better, but it is a heavy task. Great results have been attained in several smaller districts within the last ten years. I could show you a township where a thorough consolidation has taken place. The farms have been laid out in regular shape, good roads built. There were before 18,000 parcels, comprising only 8,240 acres; now there are only 1,065 parcels, and the cost of the whole proceedings is only 50 cents per acre. Before this consolidation there was a constant trading of land at low prices, say $50 per acre; now you find it a hard job to buy any land, even if you offer $300. Much more stock is kept now, and kept much better, and the appearance of everything begins to change for the better. But in spite of such undeniable advantages, it is a very difficult thing to make so many land owners, that are for the most part ignorant and narrow minded, agree to an arrangement by which every one can and must be a gainer. For many are afraid, not that they should lose, but that others might gain more. So, for instance, the Agricultural Society of the Rhine Province sent a committee, numbering nearly 30 men, of influence and practical judgment, to investigate the results of consolidations made in Westphalia. The committee were highly gratified with what they saw, and strongly recommended to their countrymen the adoption of similar measures; but though the strong influence of the government was aiding and advocating the same course, not a single consolidation has as yet been carried out in the Province of the Rhine. It is almost incredible with what obstinacy ignorant men will sometimes work against their own interest. So ten years ago the commissaries who carried out the first plans of consolidation, had to be protected from violence by military force while surveying the lands. At present the same men who then threatened to kill the commissaries, will run out and shake hands with the latter whenever they pass, and tell them how very much gratified they are by the change.

One more sample may show you that not all is gold and science here. We have, in the country between the Holland frontier and the lower Elbe, on both sides of the Weser, large plains of light soil, covered partly by heath, and therefore called the heath districts. The population there is thin. The main crop on the plowed land is rye. Of this latter grain we find almost universally good crops, but they are bought at a dear price. Rye is raised year after year on the same piece of land. A committee of investigation sent there last year stated that they had found one field on which, according to reliable testimony, seventy-three crops of rye had been raised in succession, and probably a good many more, but the record went back no further. Such practice is the rule in those heath districts. Possibly there may be fields that have borne 500 crops of rye in succession; the whole district raises nothing but rye, and very little buckwheat and potatoes. The crops are generally good, and as no artificial fertilizers are employed, the question is how such results are attained. The answer is very simple. For every acre of farming land, three to five acres are kept idle merely to be skinned. The latter serve for pasture, and every year from a portion of them the sod is taken off, hauled into the stables for litter, into the barnyard and into compost heaps. The cutting, hauling and preparing of these sods takes up more than half of all the force on the farm, both teaming and hand labor. We find often four horses kept on 40 acres of farming land, while with different management, with proper rotation of crops and labor divided through the various seasons, these four horses would be sufficient for 160 acres. So we find that the pride of the heath farmer, his rich field of rye, is raised at a heavy expense of labor and by devastating ther large portion of the farm. We find the farmer himself, though he owns hundreds of acres, barely able to supply the necessaries of life.

If we contemplate these and similar drawbacks to our agricultural progress, we will find that ignorance and want of education is at the bottom of them all. Their root is not in the country, but in the people, and as intelligence and better knowledge are spreading, we shall witness an astonishing development of our agricultural affairs.

Munster, Prussia. W. V. L.

Saving Dahlia Roots through the Winter.

The latter part of summer I earth up around the stalk to prevent freezing. Four or five days after the frost has killed the tops, I take them up. If left any longer, they will commence sprouting. I then cut the stalk four inches long, then with my knife pare off all the outside to the eyes or crown. By so doing, the stalk dies more readily. I have lost more roots by rotting around the crown than by any other way. S. WORDEN.

Oswego Co.. Dec. 3.

[For the Country Gentleman and Cultivator.]

THE ACTION OF GYPSUM.

Messrs. Editors—Gypsum does act according to Agricola's chemical explanation, given in Co. Gent., p. 347, but only to a slight extent.

It is an established fact that gypsum has the property of absorbing ammonia in a moist state, and of returning it in a dry state. Thus if gypsum is applied to any of the leguminous plants, possessed of broad leaves, after heavy dew, the absorption of ammonia from the air will readily take place during the cool nights, and the gypsum being saturated with ammonia, will return the gas at the first rays of the rising sun, when the plants will absorb it readily, and greatly benefit from it.

Hence the propriety of applying gypsum only on the well grown leaves, so as to obtain a large surface of absorption. Hence the action of gypsum on leguminous crops on every soil. Hence also the limited action of gypsum on grain crops, for not having a sufficient surface of leaves to act upon.

I have seen chemical experiments carried on at the Imperial Agricultural School of Grignon, to establish this fact. A strong current of ammonia was discharged in a bottle containing pieces of gypsum in a wet state. After one quarter of an hour of absorption, the pieces were handed round and did not give the least odor. Being then dried on the sand bath, they were a few minutes after passed round again, and then gave the strongest smell of ammonia, illustrating to perfection the action of gypsum when applied on crops. J. Perrault,

Pupil of the Imperial Ag. School of Grignon, Editor, &c.

Montreal, C. E., Nov. 28, 1862.

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[For the Country Gentleman and Cultivator.]

THE POTATO CROP OF 1862.

There have been several articles recently in the Co. Gent., on late or early digging of potatoes as a preventive of loss by the rot. This year, however, in most localities no rot has prevailed—the season has been remarkably favorable for the sound ripening of the potato crop. In Western New-York the crop has been a fine one, and we have even succeeded in gathering quite a fair crop of that best of all baking potatoes, the Mexican. This variety has been very subject to rot of late years—this year scarcely at all. The remark is true of the round Pinkeye.

Some have thought that digging the potatoes early—especially when the tops indicated rot—would prevent much loss from the disease. "J. L. R." of Jefferson Co., says this is his experience. Others have contended that pulling or cutting off the tops when indications of rot appeared, would answer the same purpose, and those affected might lie in the hill with the others, so as to be sorted at digging, saving the trouble had in the case of early digging when a portion rotted after gathering. We thought to try it this year, but the favorable season gave us good potatoes with, as well as without, tops in the case of the Mexicans, upon which we experimented. Some withering and rust of the tops appeared in September—a few of the tubers began to be discolored, so we pulled the vines on several rows, and covered the potatoes nicely with soil. In November the whole were dug, the crop was equally sound—but few rotten ones, and the only difference discoverable, was that those with tops were rather larger and fairer than those hills from which the vines had been removed.

The Prince Albert has this year had full time to ripen, and its quality is far superior to that usually had in our shorter seasons, when the vines have been killed by the frost. The same is true with us of the Peach Blow. These two kinds yield more largely than any other of equal quality with which we are acquainted. H.

Niagara Co., Dec. 1862.

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Cookies that will Keep Two Months.—One pint sour cream, one pint white sugar, butter the size of an egg, one teaspoonful of soda, two tablespoonfuls of caraway seed.

[For the Country Gentleman and Cultivator.]

CONCRETE HOUSES.

A. S. Loveland of Granby, wishes information in relation to this mode of building. He says—That is the best material for the million to house themselves in—is used in the old country and in the new, and, so far as I can learn, with the greatest satisfaction. There must be a saving of more than one-half in labor and material. Several houses have been recently built in Hartford, of concrete—plastered outside and in on the wall, and warranted never to wet through.

Several farmers want to build about here in the spring, and would like to build in this way. Now could you not, from your own knowledge, give us a description of the mode of rearing such a house? The great difficulty must be found in securing the angles, preventing spreading and bending. Could not strong hoop irons be bent and laid across the angles to guard against parting? Should not strips of scantling be set at the corner of the house, plumbed and fastened, to carry up the boxes? How are the boxes to be secured at the ends where they may meet? and how many layers can be put on in a day? Where stones are used, are they not all packed, as a layer of mortar and a filling with stone. I think a house should be but a story or story and a half, where such a wall is carried up, if not 12 inches thick. Could not flues be carried in two walls so as to give one tile each for 4 rooms.

I may be asking too much; but if you should be unable to attend to it, you have doubtless a hundred correspondents, men of experience, who would take pleasure in letting their "good works so shine, that others may take knowledge thereof, and be led to follow."

Would shell lime, water slacked and transported, answer for mortar?

I am a clergyman and farmer, and think of trying my hand as builder also, that I may "lead the people in a way they have not known." When people find they can build a house out of the earth, and do their own labor, they will give to the country something of that appearance of neatness and beauty which characterizes the village. A. S. L.

Some concrete houses have succeeded well, and others have proved a failure. It is absolutely essential that the very best fresh lime be used, and very clean sharp sand; and without good materials, failure is certain. A book was published some years ago on the subject, by O. S. Fowler, but we do not find that the mode of building has been extensively adopted, notwithstanding all that was said in its favor; and there is some question, in view of the difficulties of doing the work right, of its general adaptedness. Having, however, had no experience with this mode of building, we should like to hear from those who have experimented—and if successful, will they please furnish concise and full directions for accomplishing the work.

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FEED OF FARM HORSES.

W. R. Lewis of Milford, Mass., says in the American Agriculturist, that after long experience he finds that horses will do more work and last longer, and be in better condition, when feeding cut hay and corn-meal, than when kept on dry hay and oats. Cracked corn and oats make a very good feed for noon when in a hurry. The notion that horses should have hay before them all the time when in the stable, he remarks, "is a false idea; all kinds of animals will do better on regular meals. Farmers usually feed too much dry hay. You may keep a horse eating all the time and not have it thrive." In regard to carrots he says, "I would feed carrots all winter in small quantities, especially to young horses and breeding mares. This keeps them in a healthy condition. Team horses may be fed on them once each day to advantage."

[For the Country Gentleman and Cultivator.]

Pruning and Thinning Forest Trees.

Eds. Co. Gent.—At page 337, current vol. of the Co. Gent. your correspondent Quercus makes mention of a statement of mine about thinning and pruning forest trees, as published in the Country Gentleman of August, and in The Cultivator for October, 1855, and in consequence of his remarks I have this day, Nov. 25th, been to examine the wood-lot, which is about two miles from my place. I was much surprised in noticing the increased growth of trees since I visited the lot about seven years ago—especially on that portion I thinned out some over thirty years ago. The owner has done nothing to it, except occasionally cutting out a few dead trees for top-poling walls. It was the opinion of both of us that the portion thinned out is now worth twice as much per acre as the part not thinned—not, however, that there is twice the amount of wood on the thinned portion, but from the extra size and length of the trees, and their enhanced value for board logs and timber. There are hundreds of Norway and white pine trees that could be hewn or sawed into square timber from 40 to 50 feet in length, suitable for the frames of large houses, barns and other buildings. There are some dead standing trees among those where thinned, but they are wholly the smallest sized ones, having been overgrown and shaded by the larger trees.

On the part of the lot left to "nature's thinning out," there are a vastly greater number of dead trees; many of them have fallen, and are now lying on the ground, and are nearly worthless. Of the dead trees standing, cords might be cut; they are well dried, and would make capital fuel. I scolded the owner for suffering such a waste of fire-wood. The trees are now about fifty-five years from the seed. The lot was burned over about the year 1801 or 2.

Let even the most prejudiced man examine this wood and timber lot, and he would at once be satisfied of the utility of thinning out a part of the growth of trees where as thickly massed as were the seedling trees upon this lot; and Quercus very sensible tells us why it is so. He says: "The same evils result from the too thick growth of young trees as of farm or garden crops—none grow so well, and a part are choked out, as will be seen in the many quarter grown and half dead trees distributed all through the too thick plantations."

In thinning out the trees on thick plantations, care and judgment should be exercised. I have seen wood lots of young trees thinned too much, so much so that the leaves were mostly blown away, and ultimately the tough rooted grasses covered the ground and very much lessened the growth. The thinning out of such lots should not all be done at one time, but I think the better way would be to go over the thinning process every eight or ten years, the wood poles, &c., amply repaying for the labor.

Warner, N. H., Nov. 25, 1862. LEVI BARTLETT.

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[For the Country Gentleman and Cultivator.]

HURDLING SHEEP ON GREEN CROPS.

Messrs. Editors—As perhaps at this dull time of the year you are not so short of space, or I might say, have not so much to say about cultivation and crops, thus giving room for other matter relative to agriculture, I would like to have some Englishman, long resident in this country, or some American who has witnessed English management of sheep, explain how it is the system of hurdling off turnips, swedes, and other crops, has never been introduced here, and how it is that the hurdle is unknown when so universal in the old country. I have asked the question many times, but the answer given, that the winter is so much colder, don't satisfy, because, though it would account for January and February, and even some seasons for parts of December and March, yet in Sept., Oct., Nov., April and May, there does not appear any reason why the land should not be benefited by the folding as much in America as in England, nor does there seem any cause why the penning of sheep by daily giving them just what they require and will clear up, should not be as good economy in this part of the world as the other. Millions of yearling wethers are sold there during spring at the markets and Fairs, the dead (dressed) weight averaging one hundred pounds, and the fleeces ten pounds, none of which have ever tasted corn, grain, or aught but what has grown and never been removed from the fresh piece of ground they have been periodically let on, excepting hay with the roots; and having mentioned Markets and Fairs, how is it these really great accommodations to buyers and sellers, have never been established in the country towns of such a "go-ahead" nation as this? John Bull.

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[For the Country Gentleman and Cultivator.]

COTTON GROWING IN NEW-JERSEY.

Messrs. Editors—I enclose you a sample of a small lot of cotton raised by myself. I am inclined to think we can successfully raise the article if the seeds are first sprouted in a hot-bed and then transplanted—otherwise I fear our season is too short for it to mature fully. My seed was planted the 10th day of May, yet only about one-third burst their pods, and the frost held off rather later than usual this year. It is a beautiful plant, and for the information of those who have never seen it growing, I would state that the seeds burst the ground precisely as do beans. It soon resembles a buckwheat stalk, and after it is six inches high, grows very rapidly, and assumes the form of a little tree. It bears a flower in August very much like the common Hollyhook, at the base of which a little green body soon forms, which grows very fast, so much like a green hickory nut that one can hardly tell the difference. After awhile the flower falls off, leaving the green pods, as many as twenty or thirty hanging in full view. Finally the pod turns brown, and when fully ripe bursts, and exposes to view King Cotton. Whether it can be raised for profit or not, it is a highly interesting plant to cultivate for pleasure, and a very beautiful house plant, as it could be easily trimmed in so as to take up little room. Sam. G. Cattell, M. D.

Deerfield, Cumberland Co., N. J.

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What is the Best Way to Harvest Corn.

This is a question frequently asked and answered, by different farmers very differently. I mean corn on the hill. Some say husk and throw on the ground, and afterwards pass around with wagon and pick it up. There are some objections to this mode—one is, there is a little gets shelled off and is wasted; another is, unless considerable pains are taken in gathering up, there will be a good deal of rubbish with the corn. Some of our best farmers let their teams stand in the barn and husk and gather in this way. Others gather by driving a wagon along, and husk and throw into the wagon at one handling, as they pass along. Another way still is to set the wagon in the corn, centrally for a load, and use a basket to throw the corn into as it is picked off, and afterwards emptied into the wagon box. In this way the work can be neatly done, and with very little time spent with team, as they are frequently wanted at the plow or other work as the picking is going on. A. Moss.

Belvidere, Ill., Nov. 1862.

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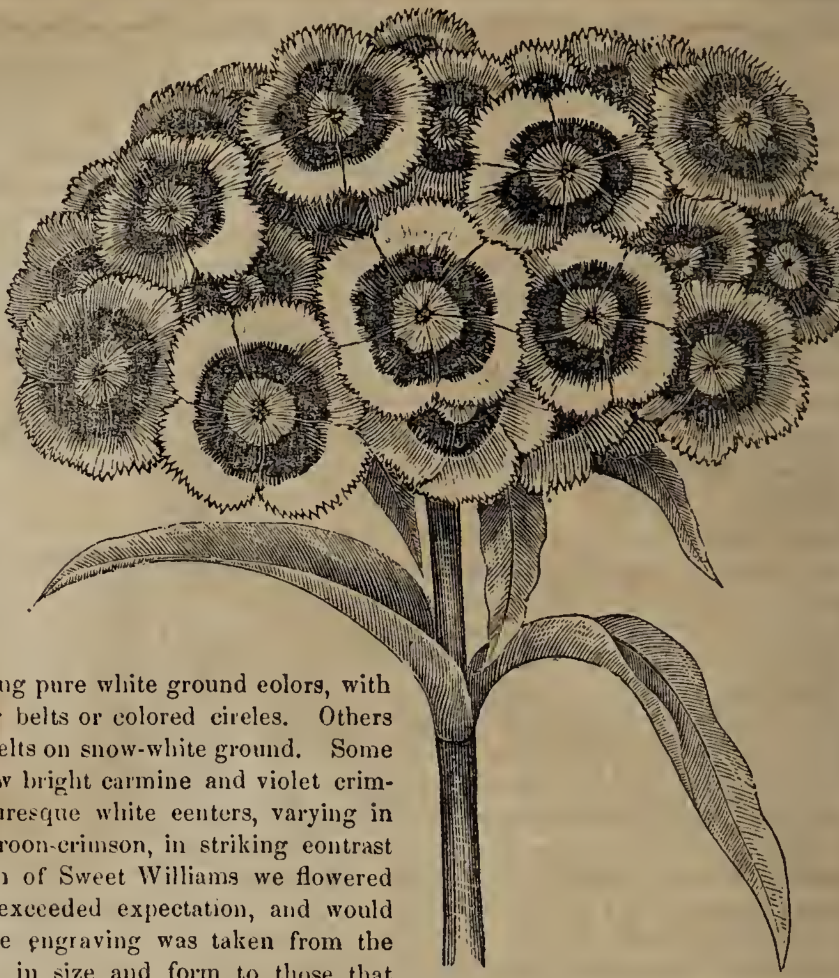
A Large Cheese.—It is reported that a dairy firm, Messrs. Steele & Bro., owning seven hundred cows, near San Francisco, Cal., made a cheese weighing 1,779 lbs., which sold for 25 cents per pound in San Francisco, amounting to the round sum of $444.75!

SWEET WILLIAMS.

We have few more really deserving flowers than the Sweet William. Even old and what we now call poor sorts are desirable, and could hardly be dispensed with had we no better; but Hunt made a great improvement in this flower, and for a few years we have grown from his seed with great satisfaction. From various sources we learned that Mr. Bragg of Slough, had even surpassed Hunt, and that his Sweet Williams were models of perfection. In 1861, E. G. Henderson & Sons, the London Seedsmen, succeeded in obtaining his whole stock of seed, and named them Henderson's Perfection Sweet Williams. They were represented as "a decided improvement upon Hunt's varieties, showing the most brilliant tints, with broader flower lobes, and smooth, even, rose-petaled margin, including pure white ground colors, with rich violet-crimson and violet-purple inner belts or colored circles. Others finely marked with bright cherry-colored belts on snow-white ground. Some flowers blended with the above colors show bright carmine and violet crimson grounds with white margins and picturesque white centers, varying in others to cherry or violet-purple and maroon-crimson, in striking contrast with starry white inner belts." This strain of Sweet Williams we flowered this season, and we can say that they far exceeded expectation, and would justify the most glowing description. The engraving was taken from the earliest specimen flowered, and is inferior in size and form to those that bloomed later in the season. The flowers were in most cases larger than an American quarter, and for delicacy and brilliance of color, perfection of form, and general beauty, equal to the best of the Phloxes. No flower of its season attracted such general and merited attention.—*Ill. Ann. Register.*


Henderson's Perfection Sweet William.

THE ONION FLY.

The Onion Fly (*Anthomyia Ceparum*, Meigen,) is a small ash gray fly, about half the size of the house-fly. It is represented magnified in fig. 1, the cross lines underneath showing its natural size. This fly lays its eggs on the leaves of the onion close to the ground, most frequently when the plants are quite small. The maggots which hatch therefrom are blunt at one end, and taper to a point at the opposite end. They descend into the bulb, where they feed, and remain during their pupa state, as shown in fig. 2. The bulb becomes rotten soon after they enter it, and the leaves above ground die and turn yellow. In particular gardens all over our country the onions are all destroyed, year after year, by this fly. Strewing powdered charcoal over the beds is said to be the most successful measure for repelling these flies from them.

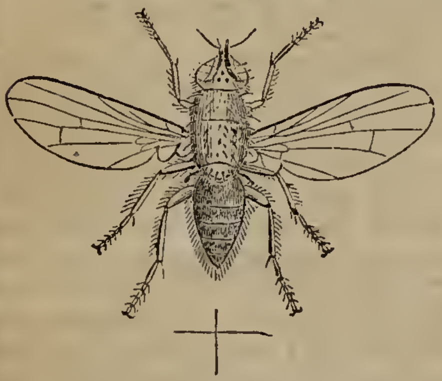


Fig. 1.—The Onion Fly.

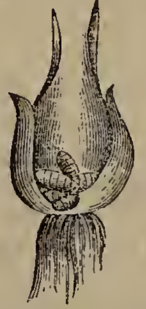


Fig. 2.—Worms of the Onion-Fly.

The maggots of other species of this same genus *Anthomyia*, bore in the roots of turnips, radishes, cabbages, and lettuce.—*Dr. Fitch in Ill. Ann. Register.*

[For the Country Gentleman and Cultivator.]

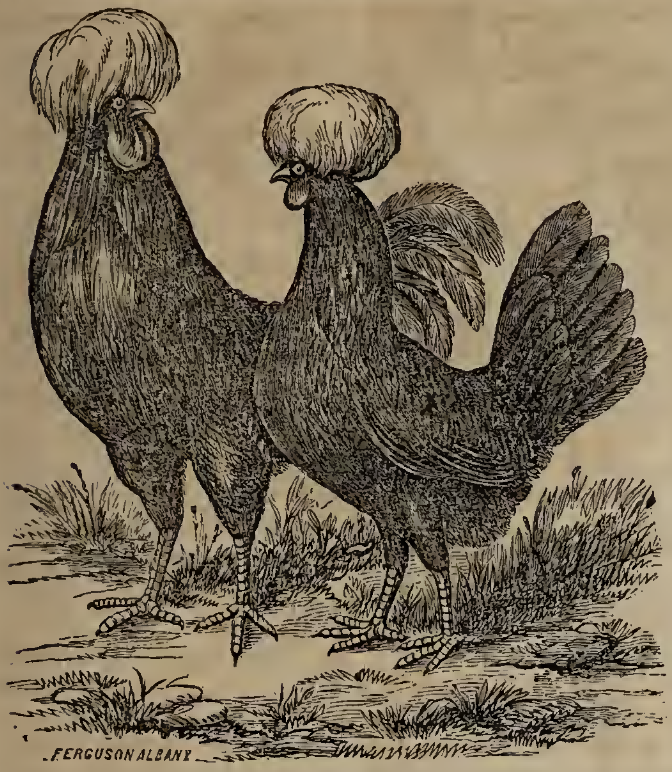
POLAND FOWLS.

With these fowls there has been much difference of opinion respecting the applicability of the name. Some, with apparent reason, would divide them into three families—the St. Jago, the Turkish, and the Hamburgh. For the same reason, they rank as Polands all fowls with their chief distinguishing qualities—a full, large, round compact tuft on the head. It is a class of fowls of which their beauty, united to their useful qualities, must make general favorites. All the sub-varieties are of medium size; neat compact form, with full plump bodies, full breast, lead-colored legs, and ample flowing tails.

We shall now speak more particularly of the White Crested Black fowls, of which our figures above is a good illustration. They are more commonly known as the Black Poland; but from whence their title to *Poland* was derived has eluded all research, unless it be that, on their over-land passage from India, they sojourned in Poland before arriving in Great Britain.

The White-Crested Black Poland fowl, is of a deep, velvety shining black body, with a large white crown of feathers. They should be without comb, with the exception of two small forked bright red points, something after the fashion of a pair of horns, in front of the crown. The tuft or crown to be perfect, should be entirely white; but it is rare to meet one without a slight bordering of black or partly black feathers round the front. If the feathers of the crest are not all white, it is no sign of impurity. Some beautiful specimens of these fowls, which are fully illustrated in the above figures, now engraved expressly for this article and for the first time presented to the public, were imported into New-York last spring, from Holland.

The White Crested Black Poland fowls are a very useful



The White-Crested Black Poland Fowls.

variety, and in the estimation of many are equal to the Dorkings; their shape is good, being plump, square, full-breasted, and rather short in the leg; their legs and feet are mostly of a light blue or dusky color.

They are more suited for the purposes of the fancier than the farmer. The chicks are a long while in out-growing their chickenhood; and the full-grown birds are not at their best till their second or third year. They lay a vast number of rather large sized eggs; and are slow to sit; indeed mostly everlasting layers, but less invariably so than some other breeds. Their flesh is excellent, being supposed to be as much superior as their plumage is pre-eminently elegant. Sonnoni tells us that in Egypt they are in great request for the table, and our own experience confirms the preference.

The White-Crested Black Polish fowls sometimes produce pure white chicks of great beauty, but so tender that it is difficult to rear other ones from them. C. N. BEMENT.

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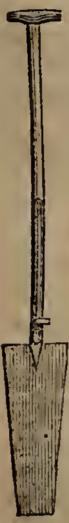
☞ During a recent visit with EDW. G. FAILE, Esq., at the farm of his son, Mr. SAMUEL FAILE, at White Plains, we were much pleased with a very simple and effective contrivance which has been in use for some time past in the extensive draining operations there conducted.

We might begin by remarking that in excavating the drains, Mr. F. finds the English tools, although more clumsy in appearance, in the end more handy and serviceable than any he has been able to procure of American manufacture. The annexed figure, (fig. 1.) is a good representation of the English draining spade, and is in constant use. The tool for shaping and clearing out the bottom of the drain, which is often made of the shape represented in fig. 2, proves much more convenient in practice, to have the handle bent *the other way*, so as to use to push forward, instead of to draw back, and to shovel out with.



The ditch is thus completed, and the bottom properly shaped for the reception of the tile—round or pipe tile being preferred, almost as a matter of course now-a-days. If it is as long an arm as many in Mr. Faile's fields, and with as hard a subsoil to excavate, it may require some days to finish it; and, by this time, considerable water will be running in it. The man laying the tile begins at the upper end of the drain; and as he stands, one foot before the other in the narrow ditch, he will find, not only that his feet are constantly imbedded in a tidy little puddle, somewhat to his own discomfort, but also that they dam the water back so as to interfere with the fitting of the tile nicely in its place, and, moreover, that his boots are constantly treading out of shape the neatly excavated channel, softening its bottom or sides, and interfering materially with the workmanlike execution of the job. To overcome all these difficulties at once, is the object of Mr. FAILE's contrivance, fig. 3, which so completely effects the object as to render it surprising that no one should have thought of it before. A pair of *Draining Shoes*, if we may call them so, are made to attach to the foot in precisely the same way as skates are strapped on, as shown in the accompanying cut. This *shoe* is made of zinc or galvanized iron, long and broad enough to fit the foot, curving at the bottom like a semi-cylinder, and from two and a half to three inches in height at the middle. The engraving represents it perhaps as rather too broad in proportion to its height.

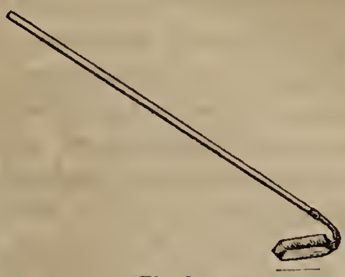


Fig. 2.

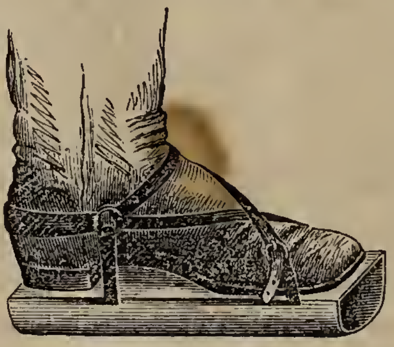


Fig. 3.

In practice these shoes are found to answer a much better purpose than was anticipated. The men put them on at first with some reluctance to rig themselves out in such a way, but soon became so fond of them that they would not dispense with them on any consideration. They exceed the anticipations of their value, because it is found that they answer so admirably to put the bottom of the drain in the right shape, as well as to keep it right. The water lying in the ditch runs through them without impediment, and as they are drawn backward or pushed forward if need be, they clear the way of any soil or other obstruction that may have fallen in the way, and but little practice only is needed to render them as handy in this respect, as they are convenient in not damming up the water or poaching up the mud.

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THE JEFFRIES APPLE.

We are indebted to Pennsylvania for some of our best apples. The Jeffries is another fine variety to be added to the list of those worthy of very extended trial. It fruited with us this summer, and is both handsome and excellent.

Fruit medium size, skin yellowish, striped and splashed with crimson; flesh white, tender, juicy, with a mild agreeable sub-acid flvor; season last of August and first of September.

The tree is a moderate, upright grower, ripens up early, and will doubtless prove hardy and suited to the north-west. Worked on paradise it makes a very handsome dwarf tree. A. G. HANFORD. *Columbus, Ohio.*

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Modesty is generally the companion of virtue, innocence, and real abilities.

ILLINOIS SORGHUM CONVENTION.

A convention, composed of producers of Sorghum and Imphee cane, and manufacturers of syrups and sugars, together with inventors and manufacturers of machinery used in extracting the juice from the cane and manufacturing it into syrups and sugars, met at Rockford on the 3d Dec., and continued in session three days, during which a vast deal of valuable information was elicited on this new branch of industry. The report of the discussions is published in the Rockford Register, from which paper we copy the following report of the committee appointed to examine the syrup and sugar on exhibition, as it embraces many important facts, and shows the progress which has already been made in this business at the West.

Your committee respectfully report that the following described samples are on exhibition, to which we have appended such information as we have been able to obtain:

One specimen of syrup by P. Woolworth of Rockford, from cane that had been frozen. This was worthless, being spoiled by the frost.

H. Foote of Winnebago Co.—Five specimens of syrup. He has manufactured 1,800 gallons.

Sylvester & Daniel Scott, Winnebago Co.—Thirteen specimens syrup. Have made 1,428 gallons. It took from 8 to 14 gallons of juice to make one of syrup. No clarifying done.

C. A. Huntington, Rockford.—Three specimens. Manufactured 1,600 gallons, at a cost of 15 cents per gallon. Juice averaging 7 gallons to 1 of syrup.

C. Cory & Sons, Lima, Lagrange Co., Ind.—Six specimens syrup, and four of sugar made from the Chinese cane, and two from the Otaheitan cane.

L. Meacham, Du Page Co.—Specimens of sugar made from sorghum. He cut the joints out of the cane before crushing.

J. M. Frink, McHenry Co.—Eight specimens of syrup, of which two were from Chinese sorghum. He manufactured 1,085 gallons, at an expense of 11¼ cents per gallon. Eight cords of wood were consumed; men's labor at $1.25 per day, and team at $1. He made 30 gallons per day. He showed four samples of sugar from the Chinese cane. It had stood in the shock eight weeks. The syrup was two weeks in granulating.

V. R. Beach, Independence, Iowa.—Two kinds of sorghum syrup. Manufactured 2,600 gallons. Juice averaged 7 gallons to 1 of syrup. Cost of manufacture 7 cts. per gallon. Made from from 80 to 100 gallons per acre.

Danley & Davis, Winnebago Co.—Three specimens of sorghum syrup. Made 1,800 gallons at a cost of 12½ cents per gallon.

Orlando Clarke, Rockford.—Two specimens syrup, one from early imphee. Obtained 22 gallons from one-tenth of an acre. Manufactured 180 gallons, at a cost of 10 cents per gallon.

D. S. Pardee, Winnebago Co.—Six specimens of sorghum syrup and three of imphee syrup. Made 800 gallons at a cost of 15 cents per gallon. 9 gallons of juice made 1 of syrup.

Harry Spaulding, Ogle Co.—Five specimens syrup. Made 3,000 gallons, at a cost of 10 cents per gallon. Counting wood $3 per cord, labor 75 cents per day, and team $1 per day. Made from 75 to 100 gallons per 24 hours. 8 gallons of juice to one of syrup.

E. H. Seward, McHenry Co.—Eighteen specimens of syrup, part sorghum and part imphee. Made 2,200 gallons at a cost of 10¼ cents per gallon. Average of 13 gallons of juice to 1 of syrup.

Belcher of Chicago.—Three samples of refined syrup.

Lewis Nichols, Winnebago Co.—One specimen of syrup. Made 400 gallons. Averaged 8 gallons of juice to 1 of syrup.

Almeron Dodge, Winnebago Co.—One specimen syrup. Made 900 gallons. Average 7 to 8 gallons of juice to 1 of syrup.

Isaac Crisman, Sycamore, De Kalb Co.—Six specimens of syrup. Made 3,000 gallons, at a cost of 15 cents per gallon. Wood $4 per cord, help $1 per day, and team $1.50 per day. His sample of white (or as some call it, yellow) imphee was the best. The cane of this had been frozen twice, and it was made into syrup October 25th. He got 35 gallons from 24 rods of land, with moderate stand of cane. It was manufactured at the rate of 7 gallons per hour. The syrup stood 45° by the sachrometer. The cane grows 13 feet high, and does not fall down like sorghum. The syrup granulates easily. His white imphee yielded 1 gallon syrup to 4½ of juice. Grown on rich loam. He showed four specimens of sugar. Made 1,000 or 1,200 lbs., and obtained 11 lbs. to the gallon. He has the seed of the white imphee for sale.

P. W. Gates, Chicago.—Six specimens syrup made at the rate of 400 or 500 gallons per 24 hours. He could manufacture at a cost of 4 cents per gallon, when he made 1,000 per 24 hours. Juice averaged 8 gallons to 1 of syrup. He showed a sample of sugar.

Chas. Fletcher, Rockford.—Five specimens made 1,300 gallons, at a cost of 11¾ cents per gallon. Juice ranged from 5 to 10 gallons to one of syrup.

B. B. Hovey, Winnebago Co.—Two samples of syrup. Made 2,665 gallons at a cost of 9 cents per gallon; 7 gallons juice to 1 of syrup.

J. M. Moss, Waverly, Iowa.—Seven specimens of syrup, and two of sugar. He made 2,753 gallons of syrup, at a cost of 10 cents per gallon. The sugar was made from yellow imphee.

W. G. Cole, Rockford.—Two specimens of syrup. The yield was 105 gallons from one half acre.

A. T. Moss, Boone Co.—One sample yellow imphee syrup. Made 1,200 gallons.

O. N. Brainard, Marion, Iowa.—Two samples sugar; one from sorghum and one from imphee. Made 1,200 lbs. sugar, averaging 12 pounds to the gallon. He had three samples of syrup; made 3,600 gallons, at a cost of 5 8-10 cents per gallon. Juice 9 or 10 to 1 of syrup.

J. E. Youngman, Rockford.—Seven samples of syrup, made 1,870 gallons, at a cost of 11⅓ cents per gallon. Juice averaged 7 to 1 of syrup.

C. D. Roberts, Jacksonville.—Eight samples of syrup and four of sugar. Made 2,500 gallons of syrup, at a cost of 9½ cents per gallon, hiring everything done, and including expense of setting up the machinery. He made 350 gallons in three days and nights. He also had fine samples of sugar from Blymyer, Bates & Day, Mansfield, O., manufacturers of Cook's evaporators.

Pope & Buckbee, Winnebago Co.—Seven samples sorghum syrup. Made 3,500 gallons, at a cost of 15 cents per gallon. Juice ranged 5 to 7 gallons to 1 of syrup.

J. Milner, Rockford.—Three specimens of syrup; made 1,150 gallons, at a cost of 13 cents per gallon. Juice 7 to 1.

G. Anderson, Rockford.—Two samples syrup. Made 250 gallons.

M. Johnston, Rockford.—One sample syrup. Made 1,050 gallons, at a cost of 12 cents.

A. Heart, Winnebago Co.—Two samples syrup.

N. Smedley, Boone Co.—Three specimens syrups; made 1,400 gallons, at a cost of 12 cents per gallon. Juice averaged 6½ gallons to 1 of syrup. He had one specimen of sugar.

Your committee would respectfully report that they have spared no pains in examining the different samples of syrups on exhibition. From the good samples they set aside twenty-seven as ranking first among those exhibited; that as a matter of course there are among this lot, some of superior excellence and purity, but they are so numerous that your committee concluded to designate no one as worthy the claim of superior excellence. Certain it is that, judging from the samples, great attainments and advancements have been made within the last year in the manufacture of syrups; and with the necessary care and attention to the subject of manufacture, as brought before the convention, will enable almost any one to manufacture a very palatable article of syrup. How far it will be practicable to manufacture for sale and export, every one should be his own judge.

Among the sugars on exhibition, your committee would make especial notice of the following:

L. Meacham of Will Co.—Sugar partly refined, made from Chinese cane.

C. D. Roberts, Jacksonville.—Nine different samples, made of various kinds of cane, and from the mush state to the refined grain.

Cory & Sons, Lagrange, Ind.—Several different samples made from Chinese and Otaheitan canes.

J. C. Frink, McHenry Co.—Four kinds, made from Chinese cane.

C. N. Brainard, Marion, Iowa—Two samples in the crude state, made from the African and Chinese canes.

D. S. Pardee, Winnebago Co.—Several samples from imphee, in the mush state.

Isaac Crisman, Sycamore Co.—Three specimens from the different kinds of cane.

One sample of dark sugar, owner unknown.

J. M. Moss, Waverly, Iowa.—One sample made of the yellow cane.

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[For the Country Gentleman and Cultivator.]

Sheep Husbandry---Winter Management.

Editors Country Gentleman—While conversing with your Associate Editor J. J. Thomas, in 8th mo. last, upon agricultural pursuits, he encouraged me to write some essays on my mode of farming directed to you. I am now in my 41st year, and have from my infancy lived on the farm, and up to the present time have labored diligently with mine own hands, yet I never wrote any for the press.

You may recollect that in publishing J. J. Thomas' Notes on visits paid to farmers last year, some account of my system was noticed. Friend Thomas took no notes in regard to my sheep, and I will here state that they have ever been a source of profit to me, and as the wintering season has commenced, I propose to give my views as follows in relation to management, &c.

The prudent farmer has now prepared suitable shelter for his sheep, and if he keeps—say two or three hundred —he has them divided off in flocks of seventy-five or thereabouts. If he has not a plenty of barns with sheds adjoining for all, then suitable shelters may soon be made near a stack or by the side of some lone barn. These may be made of rails, covered with straw, and the sides thatched with same. These can easily be removed in the spring. For myself, I find it advisable to have good hay, corn-stalks and straw, and also the grain trough, near by. Corn, oats, barley, beans and buckwheat, are all good. Quantity—discretionary with the feeder, in proportion to the kind of grain used. Oats are preferable for lambs, and perhaps are the best for ewes. If the sheep are a little dainty and do not eat all up readily, sprinkle in a little salt when they are nearly through eating. The grain may be fed in the morning, or if near the dwelling, mid-day would be preferable.

I feed corn-stalks in the morning promiscuously on the ground, when clean and frozen, and if the flock is not handy to visit at mid-day, then I would fill the racks with good straw for them to feed upon through the day. At night, clear the racks, spreading the straw under the shed, and feed hay in said racks.

This mode makes a suitable change, and if followed up till spring, the stock will look well, and a fine quantity of manure will be made for the farmer's use. Good spring water, easy of access, I consider almost indispensable for the health of the animal. G. M. S.

Cayuga County, N. Y., 12th mo. 10.

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☞ "I have profited as much," writes a Michigan subscriber, "during the past two years in which I have taken The Cultivator, from its perusal, as I possibly could have done, I feel assured, by years of hard labor and stern experience."

DESTROYING RABBITS.

A western correspondent of the Prairie Farmer claims the $1,000 premium which some one proposed to offer for the best remedy to prevent the gnawing of rabbits on fruit trees. His remedy is to catch the rabbits, and his wife puts them into the dinner pot. He asks if any reasonable rabbit could be expected to eat fruit trees after going through this process? His boys catch the rabbits in boxes, of which [boxes] he keeps a dozen in his nursery of young trees. The boxes are about 3 feet long, and six or eight inches wide—have a sliding door in one end, held by a spindle running the length of the box. No bait is needed, as he says *you cannot keep a rabbit out of a hole*—and on the least noise to frighten them, they run into the traps for safety. They touch the spindle, and down goes the sliding door. This writer says he never uses any wash, and yet he has never had a tree gnawed. It may be questioned however, if the traps deserve all the credit, as he incidentally gives us a very important piece of information, namely, that a little rat-terrier dog which he keeps, is so vigilant, that it is hard for a rabbit to get time to nibble. At all events, between the dog and the trap, his trees are safe, and many good dinners are the result of the process.

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[For the Country Gentleman and Cultivator.]

THE CROPS OF IOWA.

Office of Secretary of Iowa Farmers' College,
Desmoines, Dec. 8, 1862.

Eds. Co. Gent.—I notice in your paper of the 4th inst. a statement purporting to come from me, in regard to the yield of crops in this State for 1862, in which there are several errors, especially in regard to wheat and hay. The first statement I published was in August last, as follows:

Number of bushels of Spring Wheat,	16.500,000
do. do. Winter Wheat,	2.000.000
do. do. Corn.	76.250,000
do. do. Oats.	10,000,000
do. tons of Hay,	1,000,000
do. of Cattle,	700,000
do. of Hogs,	1,421.233
do. of Sheep,	350,000
do. of Horses,	237.000
do. of Mules,	8,000

Since publishing the above I have made critical statistical reviews of the products of this State, which I published in the *Iowa Homestead*, where I made a reduction from the above in the amount of wheat cut, being 15,500,000 bushels. Of the cattle above enumerated there will be or were in January last, 175,000 head, and of hogs for market this winter 900,000 head. I am happy to add that our farmers are receiving fair prices for nearly all their products, indeed I may say all except wheat.

WM. DUANE WILSON.

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Irrigation of Grass-Lands.—The *Boston Cultivator*, in a letter on the experiments of Mr. Clark Rice of Brattleboro', Vt., in irrigating his farm, after an interesting description of the process, has the following paragraph:

"Mr. Rice's experience has demonstrated that land may be kept in grass permanently by irrigation, and that neither the quantity nor quality of the crop will deteriorate. He has grass-land which has been irrigated twenty years, and the principal change in the crop has been that it becomes rather finer from year to year. He has one lot which has been irrigated annually for twenty-five years, and all the manure it has had in this time besides water, was a top-dressing of compost of one part yard manure and two parts muck, at the rate of ten cart-loads per acre, twelve years ago. The dressing increased the crop for one or two years, but it has always been heavy. I examined the hay from the irrigated grounds, and found it to be of excellent quality."

[For the Country Gentleman and Cultivator.]

Cleaning Seed Wheat---Depth of Covering

I would advise your correspondent John F. Hillman, (see Co. Gent. of Dec. 18, page 395,) to clean all the cockle out of his seed wheat before he sows, and then there will be none to come up but what may be in the land, and if he makes his seed always clean, that in the land won't long trouble him. This I know from experience.

Now I will tell him how I cleaned all the cockle out of my farm more than thirty years ago. I went to the fanning-mill maker and got him to make a screen for my mill, considerably coarser than common, and put that in the mill when cleaning seed wheat, and let the wheat run a little slower through than common, and in that way I got all the cockle and other small seeds in the box under the screen, and also the wheat cracked in threshing.

If farmers would only use their brains a little more, they would soon get quit of many things that are now troubles.

If Mr. Hillman or any other man, plows in wheat more than three inches deep, it will always come up spindling and poor. Two inches is deep enough to cover wheat, unless the autumn should prove very dry.

Near Geneva, 18th Dec., 1862. JOHN JOHNSTON.

[For the Country Gentleman and Cultivator.]

Management of Permanent Grass Lands.

Permanent pasture and arable lands are of course distinct. Real genuine good grass land should never be plowed after being well seeded down. If properly grazed and not mowed too often, the grass will not fail either in quality or quantity. The first few years it ought not to be mowed at all, and after it will not be necessary to sow more seeds or apply manure if it is stocked with a variety of animals and not mowed two seasons together, always having a full proportion of sheep and some horses, as the latter will feed on the grass growing on the portion stained by the cows, and the sheep are fond of eating the young shoots springing on the parts soiled by the horses. Thus a field, having a right quantity of stock upon it, will be evenly and closely eaten down, which is essential to be done for the sake of quality and a thick bottom, while a contrary course will encourage a rough herbage and a falling off of the finer grasses, thus producing a thin bottom, and worn out appearance. When it is intended to mow the ensuing season, shut up the field in September, and by no means allow the grass to get too old before it is cut, as the hay is not nearly so nutritious, and the pasture is sadly weakened thereby. Doubtless much of the best land is half ruined by this error. (Even clover stands too long, for the week after it is in bloom more is absorbed from the soil than during the previous month.) In a bona fide meadow there is a very great number of different species of grass, which only proper management and time will develop and establish, and to fix and make durable a good pasture, some pains are worth taking, for when once the perennial herbage is perpetuated some liberties may be taken, and by top-dressing mowing may then become annual. In fact, thousands of acres around London have been mowed twice every year for a century, cutting about two tons in June, and a second crop in the early part of September, and by always loading back from market with horse dung double the weight of the hay sold, and brush harrowing and rolling in the spring, from $15 to $20 per acre is paid as rent and taxes, and a good living made then. All the old grass land is protected by leases in the cases, whereby the landlord can recover about $200 per acre for any portion broken up. A large deer park in one of the midland counties, the lowest part of which had 120 acres fenced off annually on the 1st of May, and the hay made in July for 70 years, 800 deer running over it at pleasure the rest of the year, seldom produced more than a ton of hay per acre; but in 1828 another portion of meadow land on the same estate, but outside of the park, was mowed alternate seasons with this, and the farming stock grazed the part of the park (hitherto mowed) every other year during the same time, viz., from 1st of May till July, and the crop of hay increased to more than double in the course of six years, and maintained the increase and improved in quality in every way afterwards. John Bull.

[For the Country Gentleman and Cultivator.]

COTTON GROWING IN SOUTH ILLINOIS.

I will give the result of my experience in growing the staple in Egypt the past season. I planted one-fourth of an acre on the 10th of May, which yielded 320 lbs. of unginned cotton. This will make 80 pounds of "lint," or ginned cotton, which is worth 58 cents per lb. in St. Louis and Cincinnati, and 45 cents at this place. There are three cotton factories at Cincinnati, and one at St. Louis.

The product of my quarter acre being 80 lbs. of lint, one acre at the same rate would yield 320 lbs. This amount per acre with good cultivation, I consider a fair average yield for this locality. It requires about as much labor to cultivate and pick one acre of cotton as it does to cultivate and harvest one acre of corn, as it (corn) is usually cultivated in the Eastern States. The reader should understand that not more than half the labor is expended here, in growing corn than is required in New York.

Many of the old settlers here of southern origin, have been for years in the habit of growing small patches of cotton for home manufacture, but their culture was very indifferent, and of course the yield small. This season perhaps one half of the farmers or land owners in this county have their cotton patches, and they will average not more than a quarter acre: not more than one in twenty has as much as one acre of well cultivated cotton.

One reason why more cotton was not grown here, was want of seed.

Corn and wheat have heretofore been the staple crops of the old settlers, and they are slow to change from one thing to another; besides they were not sure last spring that cotton in large quantities would bring a high price in cash as it now does.

It appears to be the general desire and intention of the Egyptian farmers to go into cotton much more extensively next year. From one to ten acres each are talked of by nearly every farmer I have conversed with lately.

A ready sale for cash at a high rate, "no danger of raising too much," and buyers coming to our very doors to get it, will act as a mighty stimulus to cotton growing in South Illinois next year. A. Babcock.

Union County, Ill., Dec. 8.

[For the Cultivator and Country Gentleman.]

Fresh Muck for Grass Lands.

Has any of your subscribers anything new that they can tell us about top-dressing grass stubble with muck *direct from the pit?* I have done it these ten years, and find it to pay better than any investment I can make.

My grass is now so good that I have not foddered my cattle any yet, except when snow lay on the ground, only ten days in all as yet this season. John Richman.

Morris County, N. J., Dec. 13.

Digging Potatoes.—I saw in the Co. Gent. an article from J. L. R. of Jefferson Co., on digging potatoes early, which I fully indorse. It agrees with my experience precisely. I find my early dug potatoes save much the use, then, is the present style of analysis to the farmer?" best. S. Worden. *Oswego Co.*

ABSTRACTS FROM OUR EXCHANGES.

Root Cellar above Ground.—A correspondent of the Rural New Yorker objects to the mode of constructing root cellars of posts, plank and straw, on account of its forming a harbor for rats. He has made one of two feet stone walls, no stone passing through to conduct the heat. The door frame is furnished with two doors, one opening inwards, the other outwards. The bottom has two coats of water lime, to exclude rats and mice. It has two windows, and is plastered overhead. It is 16 by 20 feet, 7 feet high, and is surmounted with tool-house and workshop. The owner says he finds it best to put no more roots in a cellar than will last two months at a time—for a longer period, they keep better buried.

Prince Albert's Farm.—A correspondent of the Philadelphia Ledger states that the late Prince's Farm was 1,000 acres, 100 of which was wooded and sown to orchard grass, and watered every four years with liquid manure. The arable land was subsoiled and under a rotation—80 Short Horn and Alderney cows were kept—cow stalls and water troughs were of iron. Suffolk and Berkshire pigs only were kept—pig pens built and paved with stone. The garden required forty men to keep it, but the number of farm laborers is not stated. We would like to see a yearly statement of the expenses and profits of that farm, and to know whether the whole net proceeds would have paid for the harness and carriage of the proprietor's wife—the former being of red morocco, gold mounted, and cost $10,000, and the latter (such as her majesty rode in on State occasions) $35,000.

Agricultural Inventions in One Year.—In the official list of "Agricultural Inventions or Discoveries for the year 1861," and a war year at that, are 25 bee-hives, 51 cultivators, 26 churns, 70 harvesting implements, 26 corn-planters, 41 plows, 45 seeding machines, 19 threshing machines, and several other farm and garden implements in smaller numbers.

Renovating Fruit Trees.—The Editor of the Germantown Telegraph copies the article on this subject from the Country Gentleman of Oct. 30, p. 282, and adds his experience as follows:

"We have tried the same thing upon our own premises; but the soil was not put on so sparingly, nor indeed was it directly intended to benefit the trees (pear.) We put as much as from *six to fifteen inches* of soil, mostly muck, over the whole surface, to make a smooth lawn, and was very much afraid at the time, of injuring, if not killing, the trees, supposed to be one hundred years old; but what was our surprise to find the trees the ensuing year unusually thrifty and the crop of pears larger and more abundant than before remembered. And so every year since."

Composts—Muck and Crude Nitre.—J. C. Marble, of Paris, Me., informed the editor of the *Maine Farmer*, in a conversation in regard to composts and manures, that "In making a compost of muck, ashes, &c., he also applied to each load of muck a barrel of the skimmings of crude nitre where it had been refined for the purpose of use in his Powder mill. The compost in which this formed a part was most marked in its results, so much so that he was led to regard it as a most important ingredient to to the compost heap, and should hereafter make use of the skimmings in this way."

Halter Pulling Horses.—The *N. E. Farmer* tells of his cure of a halter pulling colt, which "would break a three-quarter inch rope as though it were a tow string." He says: "We had a halter made double, and of the best materials, and was confident that no horse could break it. It was used upon her in the stable for several days. Whether she made any experiments upon it or not, we never knew, but were always careful not to hitch her to a post, or anything else, that she could start. In a few days we had occasion to leave her while pulling a wagon from the barn floor, and hitched her to a post firm enough to hold two or three horses. When approaching her from the barn, she suddenly settled back upon her haunches, and gave two or three tremendous jerks, that made her tremble at every joint. When near enough we gave her a sharp touch over the head with the whiplash, when she tried the experiment once more, and that was her last. After that, a piece of common twine was sufficient to hold her in the stall, or to any post."

Mixing Varieties of Corn.—A correspondent of the *Boston Cultivator* makes the following statement:—"A few years ago I planted some sweet corn—Stowell's evergreen, so called—near some of the smallest variety of white parching corn. At harvest, I found the two varieties, distinctly marked, among the ears of *both* sorts. The next year, I selected some of the most unmixed parching corn, and planted it. At harvest it was more than double the size of the parching corn originally planted, and had none of the *shrivelled* character of the sweet corn. The third year's planting produced a variety of whitish, middling early corn, more than double the size of the parching corn first planted."

The Cheapest Food.—The cheapest and most nutritious vegetable used for food is *beans*. Professor Liebig says that pork and beans form a compound of substances peculiarly adapted to furnish all that is necessary to support life. A quart of beans costs in Cambridge, eight cents; half a pound of pork six cents. This, as every house-keeper knows, will feed a small family for a day with good strengthening food. Four quarts of beans and two pounds of corned beef, boiled to rags, in fifty quarts of water, will furnish a good meal to forty men at a cost of fifty cents—one cent and a quarter a meal.

To Prevent Horses from Jumping.—We know it is not jumping time, or rather pasturing time, but here is an important item which it is well not to pass by. A correspondent of the *Iowa Homestead* was riding with a friend, and observed that one of the horses had a hole in each ear. On inquiring the cause, he learned that it was to keep the horse from jumping. "Why," said he, "a horse don't jump with his ears." "You are mistaken," replied his friend; "a horse jumps as much with his ears as with his feet, and unless he can have free use of his ears he cannot jump." He ties the two ears together and has no more trouble with the horse.

Illustrated Annual Register of Rural Affairs, for 1863.—In good time for everybody to furnish themselves with it, the ninth volume of this instructive series makes its appearance. We thought the rich treasures of instruction contained in the previous volumes had nearly exhausted the all-important subjects, but a glance over this reveals the fallacy of such a thought. At the trifling cost of 25 cents, remitted to Luther Tucker & Son, Albany, N. Y., a fund of practical information would be returned in this number of the *Register*.—*N. Y. Observer.*

The number of this useful and unique little annual for 1863, has been issued, and, through the kindness of a friend, we are favored with its perusal. Like its predecessors, it is filled with useful and practical articles on the affairs of the farm, garden and household, and is beautifully illustrated by 140 original engravings, many of them from the pencil of that accomplished artist, and the author of the work, John J. Thomas. In no work with which we are acquainted, is there to be obtained so much useful and practical information on rural matters, for the small sum of 25 cents. Published by Luther Tucker & Son, Albany, N. Y.—*Maine Farmer.*

[For the Country Gentleman and Cultivator.]

SURFACE MANURING.

The washerwoman exposes her linen on the grass to the influences of sun and dew, to whiten and extract stains. Does the grass or ground gain what the cloth loses?

The farmer, leaving some scatterings in his hayfield, after two or three days goes to rake them up; he finds them worthless. The color, sweetness—in fact all the desirable qualities of hay have gone. Has what the hay has lost, been gained by the soil?

Again, the farmer spreads his green manure on the ground, and somebody says, "All right. What the manure loses the soil gains—there is no waste." A sensitive man passes such a field, and his nerves of smell are very much offended. Poh! says the farmer, to notice such a matter is effeminate. But, friend, aside from smell, isn't your manure wasting? Why, no, how could it—where could it go to? As long as the scent remains on the field, if that is of any value, I've got it, havn't I? Ah! but I noticed the effluvia a long distance before I reached your land. The air is not motionless—what rises from the ground will not fall again in the same place; besides what active agent is there which should tend to make it fall to the ground after once rising? Have you such an abundance of manure that you can thus afford to enrich your neighbors' land? Why, no, I cannot get enough for my own, much less for my neighbors' land. I declare, I never thought of that before! I guess there is a leak that ought to be stopped.

But, stranger, wouldn't you ever top-dress grass lands? Yes, but not with green or long manure, for what animal and vegetable substances it has, fit for immediate plant food, can be more certainly used with economy some other way, and all the rest, which is at least nine tenths, if not nineteen-twentieths in bulk, is mere coarse fibre, which, when thus spread, amounts to mere mulching. You would think your neighbor crazy, who, after putting his hay in the barn, should commence carting it out on the ground to spread as mulch. Certainly. Yet this would be less labor than to feed it to cattle, to say nothing of the wear and tear of their grinders.

Well then, you would rot the manure before using, would you not? Yes. But clear rotted manure would lose too much by exposure, spread as a top-dressing; besides it is too concentrated to be appropriated by plants as food until it is diluted by rains or wasted by dews and air.

Manure should be used like baker's leaven; first, to quicken and enlarge the compost heap; and second, to make of the whole farm a compost heap by incorporating it in the soil, that no benefit from it be lost.

Where one load of manure is mixed with two loads of clay and muck for sandy land, or with sand, leaves, and muck for clayey land, thus making three loads of compost fit for immediate plant food, it is poor policy to lose two-thirds of the benefits that might accrue from it, is it not?

True, I always thought it labor wasted to make a compost heap; but if what you say is true, it will pay. I must think the matter over.

Remember that a compost heap must be made properly to pay well, and for grass land it must be carefully fermented and worked over so as to be finely pulverized before using. Even then it would be well to stop and consider before applying to *any land* that is not too strong or wet to plow.

Often plowing is worth as much to land as a good dressing of manure. In such a case you double on the advantages of a top-dressing with the same amount of manure. Plow, spread the manure from twenty to thirty cart loads per acre, on the furrow, cultivate or harrow faithfully, sow on grass seed and finish with a good roller, and see if it does not pay. Don't be afraid to use the plow. It lightens, warms, dries, changes and deepens the surface mould—opens it to the air, and pulverizes it for the grass roots. And by making calculation and taking a little pains, a rich greensward may be turned in that will add much to all the other advantages. The soil is thus constantly being bettered, and the result is better crops.

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[For the Country Gentleman and Cultivator.]

LETTER FROM CALIFORNIA.

Rio Bravo Ranch, Oct. 23d, 1862.

Messrs. Editors—This sheep ranch is about 80 miles back from the Pacific coast and in 35th degree of latitude, surrounded by mountains and rolling hills, adjoining a wide extensive plain of prairie land, as far as the eye can extend. As yet this region is but sparsely settled. The whole is better adapted for herds of cattle, horses and sheep, than for agricultural purposes. However, in many localities, fruits and all kinds of vegetables and grain can be grown in abundance. In and about the lakes there are many swine shepherds.

This ranch borders upon Kern River, which heads a long distance above in the mountains. The water is soft and always cooled by the mingling of snow-water from the Sierre Nevadas. We are less annoyed by flies of all kinds and musquitoes, than any other section of country I was ever in.

Kern river is full of fine fish, and its bed of fine gold, and some day near will be worked out to advantage. The soil in almost all this region is of a rich alluvial and intervale, from two to sixteen feet in depth. Once, long since, this country was all under water. Oil springs, asphaltum and salt, crop out in many localities. Several sulphur springs on this ranch.

This climate is even; one day is the counterpart of the preceding; only slight frosts and few of them, during the winter months, which is the season for sowing the small grains and potatoes in some localities, which mature better when planted in December.

Our best houses are made of dried brick—"adobes"—from the common earth and cut straw mixed, four inches thick, eight wide, and sixteen in length—the rooms sometimes papered. The roofing is usually constructed of tule weed.

Tens of thousands of acres lie vacant, unoccupied, that are suitable to grow barley and wheat, or for stock raising. For herding, I have seen no better country than this; stock keep in high condition, fit for the shambles the year round.

Sheep grow to a large size, and very prolific. Lambs may be allowed to drop at any season of the year. Last spring the crop of lambs raised here was over three thousand, and this fall near four thousand. It is not uncommon for the original Spanish sheep to bear four lambs; and three to a birth is quite common; more than one-third yean twins. One thousand strong lambs in play, skipping over the hills, is a pleasant sight. About two thousand old sheep comprise one flock, which requires one steady shepherd and two additional at yeaning time. In this even temperature of climate, the sheep produce more wool than in hot, cold or changeable climates, while it is free from burrs.

Twenty-five miles south of this, in a dell of the mountains and hills, there is an old Indian settlement, now under the charge of our government. This year they raised over three thousand five hundred bushels of wheat, and as much of barley, upon two hundred and ten acres of ground, without irrigating. The wheat produced from single heads ninety kernels; in some instances as many as one hundred and seventy were shelled and counted, of perfect grain from one head.

This reserve lies in the shape of a horse shoe, opening into a vast plain upon one side. The surrounding hills are covered with wild oats, clover, and other grasses and cereals indigenous to the country. Here peaches, grapes, figs and pomegranates grow luxuriantly. Fig trees eight inches in diameter and as many years in age are in full bearing. Several brooks and mountain streams pass along side and through this plat, pure and cool. The water is used for irrigation, mill, and other purposes.

This rich valley is well adapted for a working colony, association, or settlement for those who admire the pure, rich and beautiful. Ten thousand acres may be covered with fruit and ornamental trees, arranged in a picturesque and pleasing manner, producing to the interior view a paradise below. This is embraced in a Spanish grant of twenty-two leagues, or 97,400 acres. *The whole* has recently been offered for the sum of twenty-five thousand dollars, including many buildings thereon. The Indians are to be removed to some other locality at the cost of the general government, which sum, when expended, would buy up and settle them upon their own land, the home of their fathers, and said to have been granted them by the Mexican government, for ninety-nine years.

This is a favorable location for rearing poultry. There is a weed which produces a seed the size of buckwheat, that has the taste of pepper, which they eat with avidity. In many parts of California poultry look wan and sickly. Sometime since I sent you eight varieties of clover which I gathered in these parts. I forward you a package of seeds from a valuable melon which was presented me by an Indian chief who cultivates land upon this river. More anon. SOLO. W. JEWETT.

[For the Country Gentleman and Cultivator.]

FEEDING COWS IN THE WINTER.

For winter feed for cows that give milk, I have never tried anything that gave better satisfaction than good bright corn fodder and carrots. With these, and an occasional mess of cabbages, say two or three times a week, we have made as good butter as I ever saw, both as regards color and flavor and keeping qualities. We have more than once kept butter—made from cows fed in this way in December—until the next June, and had it as sweet and good as when first made. And to my mind better, as ~~I believe that~~ well made butter that keeps well, will in two or three months, acquire a certain ripeness, or rich nutty flavor, that makes it superior to any new butter. We seldom lay down any butter for winter until Dec., as we are sure of making good butter then, and plenty of it. This is another object in feeding well, and such kinds of feed as are well calculated to make cows give plenty of rich milk. By so doing we are now (about the middle of January) making from three to four pounds of butter a week, from cows coming in in the spring, while most of our neighbor's cows, that don't have any extra feed, are now dry, or nearly dry.

Besides the kinds of feed already alluded to, there are many others, as the different kinds of roots—also of grain and of bran. Of the latter, I have found that made from buckwheat, decidedly the best, making more and better butter. Wheat bran increases the amount of milk, but seldom makes butter of first quality; but will do better with the addition of a little Indian meal. If feeding clear grain, I prefer corn and oats, mixed in the proportion of two bushels of the latter to one of the former, and ground. But I consider this pretty strong feed, unless mixed with wheat bran or shorts, or fed in connection with roots, such as flat turnips, mangel wurtzels, &c.

In feeding beets and turnips to cows, I have found it a very good way to mix them together. As for instance, if I have mangolds or ruta bagas, or swede turnips, I have mixed and fed them together with very satisfactory results; at least as far as amount of milk is considered. But I have found that the butter made from such feed, is not quite equal to that made when feeding carrots, though both are fed with the same kind of corn fodder, and with the same amount of cabbages. But when fed in this way, ~~I have never found~~ any taste of the turnips in the milk or butter. I have never made any experiments in feeding parsnips, but intend to try them in the spring. Winter set in a little too soon to allow us to gather any in the fall for that purpose. I raised a fine little patch of I think sixty or seventy bushels.

But as there is nothing, according to my experience, equal to carrots to feed with corn fodder, to make good butter in the winter, so I think there is nothing equal to good corn fodder to feed with carrots, for the same purpose. By good corn fodder, I mean such as was cut up before the corn was dead ripe, or had been injured by the frost, and saved without damage, retaining its bright green color. Next to this I prefer hay made from a mixture of timothy and clover, and June, and wire grass, cut green and cured in the cock, as coming as near to fresh pasture grass, as perhaps anything in the shape of dry fodder. But this, though better to make cows as well as other stock take on flesh, I have not found quite as good as corn fodder to make cows give milk or make good butter.

Of course cows to do well in the winter, must have a good warm stable, and be well bedded, and taken care of.

Western, N. Y. F.

[For the Country Gentleman and Cultivator.]

QUACK GRASS.

In answer to your correspondent's inquiry as to the way of eradicating "couch grass," or quack grass as we call it here, I would say that we destroy a great deal of it in this way. After the first breaking up of the sward no attempt is made to destroy the quack, for it would probably be of no use; nor have I any idea that QUERCUS' remedy of deep plowing with the Michigan plow, would avail anything. You must fight it the first season with the cultivator and the hoe. But after the second plowing you will thoroughly work your land, alternately with the roller and two horse cultivator; first roll and then cultivate the same way you plowed; then follow with a wagon and hand rake. The quack which the cultivator throws out of the ground, is raked up and carted away. Then roll, cultivate and rake as long as you can afford the time. You will be astonished at the amount you will draw away. I use Peckham's cultivator with steel teeth, but Sayre & Remington make a cultivator with long and very slim teeth, probably better adapted to this purpose. They call this latter implement Johnston's Cultivator, I believe, because highly recommended, if not designed, by Mr. JOHN JOHNSTON of Geneva. W.

Utica, N. Y., Dec. 7.

CHICORY COFFEE.

A correspondent in New-Jersey, who says he has raised considerable chicory the past season, wishes to know how to mix it with coffee for use. The root should be cut in uniform thin slices, and then kiln-dried, which may be done by putting in plates in a moderately heated oven. Thus thoroughly dried it may be kept through the year. When wanted for use, it should be roasted and ground the same as coffee. On the Continent it is used alone, and is said to make a very palatable and wholesome drink. In England it is used to a great extent, mixed after grinding, at the rate of one-third chicory to two-thirds coffee, which is said to be generally preferred to pure coffee.

How to Make an Omelet.

You recently published a receipt for omelets. Let me give you one:

One egg—two tablespoonfuls of milk—one teaspoonful of flour—salt to flavor. Beat thoroughly together. Butter your frying-pan well. Fry batter till the under side is lightly brown, and the whole as consistent as baked custard—then with knife underneath, roll it.

When eggs are at present prices, you will find the above a more economical dish than your three-egg omelet. H. H

Coffee Made from Carrots.

Carrots cut into pieces of the size of beans, and roasted, make a wholesome and excellent drink, to be recommended at this time of high prices. S. *New-York.*

THE CULTIVATOR.

ALBANY, N. Y., JANUARY, 1863.

☞ Volume 3d of Rural Affairs, (comprising the reading matter of the Annual Register for the years 1861-2-3,) is now ready, and orders for about one hundred copies waiting attention, have all been filled. It is in uniform style with the two previous volumes, and in mechanical execution, as well as in the character and permanent value of its contents, is at least the equal, if not in some respects the superior of either. It contains 340 pages and about 440 engravings, and is sent by mail post-paid for $1. The three volumes are sent free of expense for $3, and contain, all together, over *one thousand pages and thirteen hundred engravings.*

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☞ The Committee appointed on Improved Flax Machinery by the Executive Board of the State Agricultural Society, under the law of the last session of the Legislature, will proceed to the fulfillment of the duties assigned them, the first week in January next. Two establishments, one at Lockport, and the other at Penn Yan, have been entered thus far for examination and competition. A committee on the part of the Rhode Island Society has been appointed on the same subject, and have accepted an invitation to act in concert with the committee of our own Society.

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☞ The Trustees of the Agricultural College of Pennsylvania have prepared an interesting pamphlet, comprising a review of the past history of that institution, and showing how in the midst of many embarrassments, they are at length encouraged to believe that the day of gratifying and permanent success has dawned. Many facts are also given as to the course of Agricultural Education in other States and in Europe. Copies of this pamphlet may be had, we presume, by addressing Dr. Evan Pugh, President, Agricultural College post-office, Penn. The present college year closes Dec. 18th, and the session of 1863 opens Wednesday, Feb. 22d.

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☞ Hon T. C. Peters, Darien, Genesee Co., has lately purchased from the herd of Mr. Ambrose Stevens fifteen head of Short-Horns, including the premium heifer calf at the last State Fair, and its mother, with ten other cows and heifers, a young bull and two bull calves, all roan or red and white in color, and affording the basis of a herd which must exert great influence for good upon the stock of his vicinity. Mr. Peters will now enjoy the opportunity of thoroughly testing the Dairy value of the Short-Horns, and if this object shall have at least an incidental share in his future operations, the farmers of the State may be made the wiser and the richer for his experiments. We hope to hear from time to time of their successful progress.

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☞ The Secretary of a County Agricultural Society, whom we charged for his own subscription to the Country Gentleman, only the same rate which his Society pays for copies awarded as Premiums, instead of $2, as he anticipated,—writes us in reply, as follows:

"I note your reducing my subscription to Co. Gent. for 1863 to Club rates, and take it, as meant as an expression of friendship, although I should be sorry to have asked for any reduction. As you are well aware I should be a subscriber *if the price were doubled;* and it would be hard to find a single year since I have taken the paper in which it has not been worth *five times its cost to me.* The school of experience in farming would be a much more severe and expensive one if we had not the services of such a 'private tutor' as the Country Gentleman."

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Book-Farming.—A subscriber at Ipswich, Mass., in making his annual remittance for the Country Gentleman, writes as follows:—"I have made some effort to obtain new subscribers for your valuable paper, but our farmers seem averse to "book farming." For the most part they are thrifty and well to do, but they must be stupid if they could not get two dollars worth of *hints* from your paper in a year. Indeed a paper on agriculture must be a stupid thing, if out of fifty-two numbers a man of brains could not get two dollars worth a year. From your paper I am sure I get five times its cost. But then I am no farmer. I have plowed the deep blue waters all my days, but being now "old and well stricken in years," have retired from the ocean, and built me a house and barn on an eight acre lot. My buildings and roads take up about one acre. From the remaining seven I have raised the past season, 10 tons of hay, (not over *estimated,*) 70 bushels potatoes, besides all we used in the family before Sept., 90 bushels corn, (80 bushels to the acre,) measured in baskets, allowing 2 bushels ears to 1 of shelled corn, (cob small and kernel close;) 1 ton squashes; 3 tons pumpkins, latter in cornfield; 2 tons carrots; 2 tons sugar beets; 300 cabbages, and peas, beans, beets, cucumbers, melons, &c., in abundance for family use, and 2 bushels white beans for baking—20 bushels winter apples and 8 barrels cider. I think this pretty well for a new place and a *new* farmer. E. C.

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Indian Corn.—We have received from Mr. A. Moss, Belvidere, Ill., an ear of Indian corn of remarkable size, which he says was from seed planted in May on good soil, but with no extra care. It is only seven inches in length, but measures eight and a half inches round its largest part, and, as near as we can estimate, has over two thousand kernels.

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☞ "It is gratifying to us to know that *during the whole course* of our editorial labors"—says the "Working Farmer" for December—"neither our readers or [nor] the few editors who have endeavored to injure our journal, have ever pointed out a single error in our teachings." The innocent author of this modest remark, must have overlooked much that has appeared for ten years past in the columns of the Agricultural press, or his "gratification" could hardly be so serene as he is fond of frequently representing it. Indeed we are inclined to doubt his acquaintance even with what has appeared editorially in his own columns. Some years ago, for example, he asserted (July, 1853)—and this was then the gist of all his "teachings,"—that an analysis of the soil "within the reach of every intelligent farmer," would show him "not only what it requires to render it fertile, but also the means by which these requirements may be most economically furnished," and, shortly after, that analysis has "arrived at such precision, as to render pre-judgment in Agriculture as certain as in law, physic, or the application of chemistry to any of the useful arts."

Now, following the very article in his December number, which boasts such infallibility, is a second editorial from the same pen, which *does* most decidedly "point out an error" in the foregoing doctrine. It is poor authority to quote, we admit; but, such as it is, it alleges that analysis can "detect no. difference" between "ground rock not fertile, and a very fertile soil"—after which follows the mingled question and exclamation, "*Of what use, then, is the present style of analysis to the farmer?*"

For an answer we beg to refer the querist to any of the volumes of the "Working Farmer" previous to the "discovery of the Progressive theory"—assuring him that, then as now—if his own word is to be taken—they are quite above the suspicion of "error." When the "consulting agriculturist," however, was merged in the "inventor of superphosphates"—or, rather, when fertilizer-making was found to pay better than writing "letters of advice"—then "the present style of analysis" lost its beguiling charms—the more especially since inconsistencies were found to exist between the "teachings" of analysis and the composite ingredients of the fertilizer, which could only be reconciled by the conclusion that either the former or the latter must be comparatively worthless.

☞ When doubt has been expressed as to "whether we can raise roots in this country" to advantage, we have referred to the example of the Farmers of Canada West, with whom they have become a crop of great importance. A friend sends us the results of a "turnip match" just held under the auspices of the Agricultural Society of Guelph, C. W. There were eight competitors. It appears from their returns that all the competing fields were sown on sandy loam fall-plowed, manured with stable manure, plowed once in spring—the turnips sown in rows 30 inches apart, (in one case, no. 1, 31 inches,) and the crop hoed twice, except numbers 2 and 3, which were hoed three times. The following is a summary of other particulars, including the product obtained:

No.	When was the land manured?	Loads pr acre.	Seed pr acre.	Sown June.	Inches apart in row.	No. of bush. pr acre.	No. of acres raised.
1, ..	Before sowing in drill,	16	2½ lbs.	20th	13	880	10
2, ..	do. do.	14	1¼	17	12	720	15
3, ..	do. do.	14	...	17	12	800	8
4, ..	Part fall and spring...	10	1	10–17	14	875	6
5, ..	Manured in drill......	16	1	15	12	990	10
6, ..	do. do.	..	1	14	14	800	5
7, ..	Broadcast in spring...	20	1½	17–22	15	1,050	7
8, ..	— —	..	...	....	15	850	

Nos. 1, 3, 7, and a part of no. 2, were of the variety known as the Marshall; nos. 4 and 5, and a part of no. 2, were the Skirving. The judges were engaged nearly three days inspecting the fields entered for competition. They made their calculations at 60 pounds to the bushel "but they are of the opinion that from 100 to 150 bushels more an acre is the actual amount of production." The premiums were $12, $9 and $8. The 1st was awarded to field no. 7, belonging to Mr. E. McDonald, on which a crop of 1,050 bushels per acre was found standing on the patch examined, and the rest of the 7 acres pronounced equal to it. The 2d premium went to field no. 5, belonging to Stirton & Waters, and the 3d to field no. 4, belonging to G. & J. Wright.

Yield of Carrots and Turnips.—At a recent Root Show of the York Township Ag. Society, C. W., the first prize for carrots was on 984 bushels per acre—the 2d, for 784, and the third, 680. For turnips, 925 bushels per acre took the first prize, 845 the 2d. The report says that owing to the unfavorableness of the last spring the crops were not so heavy as in former years.

Town Ag. Libraries.—For some years past, efforts have been making to establish Town Libraries, composed of works devoted mainly to rural matters. The effort was commenced in Massachusetts, where a large number of these libraries have been established. We are pleased to see that the plan is extending into other States. A correspondent at Rutland, Vt., writes as follows:—"We have recently invested about $250 in an Agricultural Library—in West Rutland they have invested $230, and in Brandon $170, in the same way—in each place forming a Farmers' Club. We have a discussion this evening on ditching or draining lands, with an address from the President of our Club."

☞ In a notice of the exhibition of the Royal Horticultural Society of England, Nov. 11th, we see it stated that the most remarkable feature of the meeting was the wonderfully fine collection of apples, &c., from Canada. Of the pears which were included in this collection, it is said that some unfortunately had greatly decayed, while the greater part were "paler in the skin, and in most instances smaller than the same kinds grown in England. Of grapes there were several dishes of fair size for outdoor fruit; but all of them have the wretched foxy taste peculiar to most sorts of American grapes. The sorts called Dalhousie and Ontario, somewhat resemble the Black Hamburgh, from which they appear to be crosses; the Isabella has a grizzly appearance: others consisted of Diana, Delaware, Hamilton Black, Sweetwater, Concord, Lincoln and Rebecca—the last a white sort, with egg-shaped berries, and better in flavor than some of the others." Various examples of cereals—potatoes, onions and carrots, were also included in this magnificent exhibition of Canadian produce.

Acreable Products in California.—The San Joaquin Republican furnishes us a table, compiled from the reports of the assessors, showing the number of acres under cultivation in that county the past year, with the total product, from which it appears that the wheat crop averaged 15 bushels per acre—barley 20—Indian corn 30—buckwheat 20—peas 60—beans 80—potatoes 100—onions 80. These are certainly not very heavy averages for a county, and not so much as we had anticipated from the occasional large crops noticed in the California papers.

Fruit in Worcester Co., Mass.—In your notice of your visit to the Mass. Hort. Exhibition at Boston, you speak of a fine orchard in Grafton. That description will apply to many other orchards in Worcester county. I have seldom known so large a crop of fruit in this vicinity, and never one when the fruit was so large and fine, and free from worms. Whether it be that the curculio has left us, or that he starved out last year, and will come again with an abundance of fruit, I don't know; but we are thankful for a supply of fruit this year, and hope to have a few plums and peaches in future. The *borer* is the worst enemy of the peach tree with me, though I have tried all the remedies for their destruction. Owing to the gum which fills the wounds, it is difficult to follow them, so that every spring I find trees girdled by the grubs. C. W. G.

Big Apples and Potatoes.—A California editor acknowledges the receipt of a Gloria Mundi apple, weighing two pounds, and another editor in the State says he has received three potatoes which weigh *twenty pounds each.*

☞ We regret to have to announce the quite sudden death of Jonas Webb of Babraham, England, under peculiarly melancholy circumstances. Mr. and Mrs. Webb were visiting her brother, Mr. Marshall of Cambridge, where Mrs. W., who appears to have been somewhat unwell for several weeks, became worse and died Nov. 5th, a day which had been fixed for her son's marriage. The shock was too much for Mr. Webb. He became very ill, and died on the 10th, the day on which the funeral of his wife took place.

Mr. Webb had associated his name inseparably with with those of the most prominent breeders in the history of English Agriculture. His success, owing to a rare combination of good business faculties with matchless skill in the improvement of his stock, was productive of very large pecuniary returns to himself, as well as of great benefit to the flock-masters of every civilized country. It will be remembered that the final disposition of the Babraham South-Downs was decided upon last year, resulting in a sale in 1861 of all, except the lambs, for the aggregate amount of £10,926, and in the sale of the lambs in 1862 for £5,720—the total selling value of the flock having thus been £16,646, or more than $80,000. Mr. W. had been in receipt of a large revenue from the flock for many years, the annual aggregate of his "Lettings" having been from $5,000 to $9,000. He had also a very valuable herd of Short-Horns, and a heavy capital employed upon the extensive farms of which he was the tenant. Death has come to him at a mature age, when the great labor of his life is completed, and in the enjoyment of a well-won and world-wide reputation. As one of our foreign exchanges remarks:—"Every one who had the pleasure of coming into contact with Mr. Jonas Webb, must have been struck with his frank and manly bearing; and those who have had transactions with him can bear testimony to his strict integrity and undeviating uprightness."

☞ We regret to learn by the Hartford Courant the sudden death of John A. Tainter, Esq., of that city, of disease of the heart, on the 15th inst. Mr. Taintor was widely known and highly esteemed as an importer of improved stock—particularly of Alderney cattle, and, in past years, of Merino sheep. It seems from the notice before us, that "he had been aware for months past, that his tenure of life was exceedingly precarious, having suffered very severely from previous attacks of a similar nature."

Beyond the memory of what Mr. Taintor has done for the Agriculture of the country, those who have seen him at home will look back upon the cordial greeting and friendly hospitality he was ever ready to extend to his friends, and the pleasure with which he was accustomed to place himself and his time at their disposal. It was during the late show of the Connecticut State Agricultural Society at Hartford that we met him personally for the first time—little thinking that it was also the last, that the only mention of his name to be permitted us in the future was as one whose career of usefulness and activity had forever closed. But the deeds of such men "live after them."

The Weather as Influencing the Ravages of the Wheat Midge.—L. O. B. writes to the Country Gentleman under date of Akron, Ohio, Nov. 15th:—"Dr. Fitch says that when the latter part of June is wet, the midge will be abundant, and vice versa, which seems to be contrary to the common opinion among farmers here, and contrary to the facts of the case the past and present year. Before harvest it was a common remark that there would be little or no midge this year, as wet seasons were not favorable for them, and although there was a moderate quantity, it was less than last year, which at the corresponding season was quite dry. My own opinion is that the weather has less to do with it than is generally supposed."

☞ A contemporary urges that the Department of Agriculture ought to publish a "Quarterly Journal" for the enlightenment of the farmers of the country, and publishes an extract from a letter by the Commissioner of that Bureau, in which he expresses a desire to do so, and states that he hopes at the coming session of Congress to get an appropriation for the purpose. Our contemporary asserts in the article referred to, that "such a work would not lack for subscribers at a self-sustaining price."

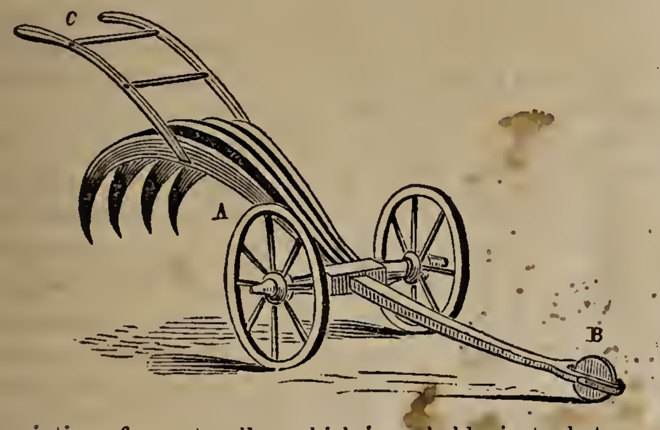
We much regret to differ, most widely, from these views and statements. There is not an argument employed, which would not apply as well to the establishment of a Monthly or a Weekly Journal of Agriculture—nay, which would not, if carried out consistently, authorize the government to go into the periodical business at large, and issue a Daily to supply the people with general news as well as a weekly or a quarterly to supply farmers with "such improvements and discoveries as may from time to time be made." If there *is* public support to render such a "Quarterly Journal of Agriculture" self-sustaining, this alone is reason enough why the Government should not meddle with it.

It is our purpose to take up for consideration at some length, as soon as time permits, what we believe to be the true scope and objects of the Bureau of Agriculture. We cannot now enter into a full discussion of the above proposition without forestalling what we design to say hereafter. But we are unwilling to let the proposition pass without promptly entering our protest against it. The Bureau of Agriculture will find an ample sphere for all its energies in the preparation of an Annual Report that shall fulfil the requisites which intelligent readers have a right to demand in such a volume. Whatever support or aid it may need in accomplishing this end, every friend of Agriculture should be willing to render. If it is to accomplish nothing more than has been done heretofore—greater frequency of publication would be only an aggravation. If, on the other hand, it desires to elevate the standard of its articles, the worst of all possible methods of doing this is to hurry them into print every three months. The result of a "quarterly journal" could only be that what is little now would become still less; that evidence of an ill-digested plan or of absolutely aimless efforts heretofore existing, would become still more plain; that the matter issued would be diluted and weakened, rather than boiled down, systematized and strengthened.

The Journal of the Royal Agricultural Society of England, we may add, is published in Semi-annual parts, and not Quarterly, as our contemporary seems to suppose. We fail to perceive any proper analogy, moreover, between the Journal, or "Transactions" as we style such a work in this country, of an Agricultural Society, and the Annual Report of a Department of the General Government. Secretary Chase might with equal propriety be urged to modify his yearly budget, with the voluminous documents that accompany it, into a "Quarterly Journal of Finance."

Inquiries and Answers.

PULLING UP BRAKES.—I have for months contemplated writing you on one of my agricultural problems. I have acres of stony, brakey pasture land, that do not furnish half the grass they might for the cows. I have employed a man two months to cut off the bushes and staddles. A low bush 2 feet high, abounds; the brakes in some spots crowd out the grass almost entirely. The land or soil is strong, and would be valuable if drained, stones removed, and brakes killed out. But to ditch it, put the stones into fence, plow and dig out the brakes by hand, would make the land cost in addition to its purchase, as much as meadow. The great problem is, *how to kill the brakes* in such a way as will not make the land cost too much? If you can make some suggestions, or call upon others to do it through your paper, I should be very much obliged, and I hope instructed in such a way as practically to assist me. H. H. [We republish from THE CULTIVATOR of Sept. 1848, the following cut and description of a root puller, which is probably just what you need. The center wheels A. A., are light and so placed that the puller balances on their axletree in such a way that the heaviest part rests on the cast iron roller B; the man who holds the handles, C, walks over the land as if he were plowing; and whenever he meets a shrub or bush which is to be removed, he presses on the handles and the points of the puller enter the ground behind the roots, while the pulling of the team will lift the whole forepart of the implement up till the desired extraction is accomplished. A bush hook, similar to the above, without wheels or handles, can, we believe, be procured at the Boston Ag. Warehouses, which answers a very good purpose, but cannot be so conveniently handled as the above.]



THE HONEY LOCUST FOR HEDGES.—Will you give me information about the Honey locust as a hedge plant—how to manage it, and its adaptability to that purpose? I wish to make a hedge of this, or something better. I have tried the Osage Orange, and although it makes a good hedge, it will get disfigured by dying out for some unknown cause, in places. It is too rapid in its growth, and absorbs a wide space. It has, I think, too large growth, as well as being too tender, for latitude 42° 30'. A. S. MOSS. *Fredonia, N. Y.* [The honey locust has been considerably used for hedges; and of late years is preferred to all other plants by some intelligent cultivators. We saw, a few years since, some fine specimens on the grounds of the late William Reid of Elizabethtown, N. J. Its perfect hardiness and formidable thorns are in its favor. The only objection is its want of thick growth. The late A. J. Downing strongly objected to it on this account, remarking "there was no *hedginess* about it." Ellwanger & Barry, on the other hand, have come to the conclusion that it is the best hedge. Some have recommended to allow the trees to grow several feet high, and then to cut them off 3 or 4 feet high: but the best way is to treat them as other hedge plants—that is, to cut back freely; and obtain as thick a growth below as practicable. As it is not so vigorous a grower as the osage orange, it should be cut back but once a year, and never while in leaf. Some of the trees are more thickly set with thorns than others, and perhaps it may be best for that reason to procure the seed from the most thorny trees.]

TOMATO TRELLIS—(*A Subscriber.*)—Training the tomato on a trellis is a neater way, and will be adopted by all those who wish their kitchen garden to present an ornamental and finished appearance, and who do not object to the expense and labor of constructing the trellis and extending the plants upon it. Larger crops may perhaps be thus raised as the stems are kept more nearly upright, and out of each others' way, and the branches evenly distributed; and the fruit is kept from the soil. If not supported on a trellis, the near proximity to the warm earth may ripen some of the fruit earlier; while mulching with clean straw, or better, with recently mowed lawn grass, will keep the fruit clean.

KEEPING APPLES.—(*N. R. C.*)—The oily exudation on the surface of winter apples is said to afford them material protection from decay. Hence if it is rubbed off, the fruit will not keep so well. A neighbor informed us recently that in the spring, wishing to preserve a quantity of Newtown Pippins, he had them picked over and carefully wiped, rubbing them to a polish. The consequence was they rotted in a very short time; while those which had not been touched kept much longer. Will our readers give us their experience? Is not the reason that apples keep better headed up in barrels owing in part to the fact that the surface is not disturbed as when they are picked over in bins or on shelves?

FLAX SEED.—What is the average yield of flax seed to the acre? P. *Montour Co., Pa* [Twelve to fifteen bushels per acre for a medium crop; eighteen to twenty, a heavy one.]

SEED DRILLS.—Can you inform me of the best and simplest machine for drilling beets, turnips and other small seeds? Also name of manufacturer and price of machine? J. M'L. SMITH. [Good seed drills are manufactured by Emery Brothers, Albany—the price varies, we think, from about four to fourteen dollars, according to size, purposes, efficiency, &c.]

"SORGHUM FOR CATTLE."—In answer to your correspondent "C. R. A.," I would inform him that I have thoroughly tested it this season, and can probably give him the information he desires. In the spring we planted *thirty acres*, intending to make sugar and molasses from it. The crop proved an agricultural success, but owing to the great scarcity of help we were totally unable to secure it. I think I never saw so fine a sight as the cane presented this fall—standing from twelve to fourteen feet high, a solid mass of stalks from one inch to an inch and one-half in thickness. Ten acres we cut and piled up, and fed it out. The cattle relish the seed better than the stalk—the latter the hogs eat with great avidity. For milch cows it is better than for fattening cattle. What remained upon the ground, we turned in our herd of over one hundred head of cattle, and they have done well upon it for the last six weeks—not as well however as I should like to see. Plant it in drills two feet apart, and you will obtain a fine yield of fodder. Cut it when it is above eight feet high. We should prefer corn for fodder, however.

Dwight, Ill. S. T. K. P.

ADOBE HOUSES.—I read the article in the Co. GENT. of Nov. 20, p. 338, on "Adobe as a Building Material," with great pleasure, as I was glad to see this method of building again brought to the attention of the public. Much was said about it some years since, and it was stated that adobe buildings had been erected in or near Geneva and Oswego in this state, in Indiana, Illinois, and a considerable number in Canada West. I should be greatly obliged, as would doubtless many of your readers, to hear from the builders or occupants of these houses, what their opinions are respecting them. Will not some one who has some practical knowledge on the subject, report through your paper? LUCIUS.

CONSTRUCTION OF HORSE STALLS.—Should the floor of a horse stall be made so that the fore feet of the horse will be higher than the hind feet? Can a horse rest as well that way? I notice that when my horses are resting in the field, they stand with their heads down hill—*always*—never the other way. Do they know which is the easiest for them? Or are the stall-makers the wisest? I believe there was a mistake made in my stalls, or else the horses are mistaken. I did not think anything about it at the time of making—only thought about disposing of the water. It seems to me there must be some way of disposing of that, without making the horse stand in a position, which he says as plainly as words can tell, is not an easy one to him. HARVEY.

COUCH GRASS.—I desire information of older farmers, who have pursued a competence under difficulties, of the best method of eradicating what is invariably known in this vicinity, as "*quack grass.*" It is the *Triticum repens*, or *quick grass, couch grass*, or *quick grass* of the botanists. It is a most pestiferous, creeping thing, far more damaging than the Canada thistle, and I think has become more general in the southern part of Onondaga Co. I will state my case fairly, hoping that some good physician will prescribe a remedy, or give counsel that will be soothing. I have 20 acres of spring wheat stubble, in a poor condition (it is a rather heavy clay loam) studded thick with thistles, and matted tough with *quick grass.* It is seeded to nothing else. My plan is to plow it as early in the spring as practicable, and sow it to buckwheat, which when it has obtained a full growth is to be plowed under, and the ground prepared as thoroughly as time and the season will permit, for winter wheat. It is recommended that buckwheat will shade the ground and kill the quick grass, and if any have known of its use to plow under as a green crop, any information as to method, results, &c, will be gladly received by L. S.

Borodino, Nov. 20th, 1862.

Disease in Sheep's Eyes. — I would like to inquire through the Cultivator, the cause of sheep getting blind. There are two flocks near here that are infected, most of them one eye, some in both eyes. The sight seems covered with a thick substance; in most of them a white appearance; in others it looks blood shot. If it is a disease, as it appears to be, it is new here. Both flocks have been purchased and driven in here within a few weeks. Perhaps eating apples may have caused it, as they have pastured in orchards. They seem affected all at once, and it does not appear to be spreading. The cause and remedy from you or some of your correspondents, would greatly oblige D. E. L. *Saratoga Co.* [Sheep are occasionally liable to diseases of the eyes, from different causes, but we are not sufficiently familiar with them to be able to furnish suggestions by way of remedy or cure. Will some of our experienced readers please give the desired information.]

Raising Lopped Horns.—In answer to an inquiry on this subject, we publish the following, furnished The Cultivator in 1852, by Mr. L. C. Fuller of Kent, Conn. Mr. F. says— The horns of steers can be raised without the least damage to their growth—(the most convenient time to do it is when they are kept in the stable)—by taking two small pulleys; place one of them directly over the front edge of the manger, high enough to be out of the way of the horns—the other at any place you wish, the weight to hang out of the way; pass a cord through them with a loop at one end, to slip over a button on the end of the horn; at the other end attach a weight of from two to four pounds. This should be put on every night when the steers are put in the stable, and be taken off in the morning when turned out. I have never known that operation, when faithfully performed, to fail of raising one or both of the horns to any desired position, in from two to six weeks time. Our success has been such that we consider lopping of one or even both of the horns, no serious objection, provided they are otherwise in good shape.

Canada Postage Stamps.—In remitting you subscriptions will Canada post stamps be received? S. *Liverpool, C. E.* [We take Canada P. O. stamps, when necessary, for small fractions of a dollar, but prefer to have amounts made up so as to render it convenient to send as few as possible.]

Soiling Cattle.—I wish to get as good and as cheap a work on "Soiling" as I possibly can. Havn't you something I would like at your office? If you have, will you let me know of your publications, and the prices of each, if more than one. L. B. *Michigan.* [Quincy on Soiling Cattle, sent postpaid for 75 cents, is the only work we have on this subject exclusively, and will repay perusal.]

Shropshire Down Sheep.—Do you consider the Shropshire Down Sheep profitable for Western New-York in every respect? If so, who can I correspond with that has them for sale, that is perfectly reliable? C. R. B. [We have been led to form a very high opinion of the Shropshire Downs, and may refer you to C. B Meek, Esq., of Canandaigua, not only for the sheep themselves, but also for such farther information as you may require.]

Keeping Apples.—As you have asked the experience of your readers in regard to keeping winter apples, I offer mine. In the fall of 1860, I selected a basket of apples—a few of each variety for exhibition at our Agricultural Fair, and to improve their looks I polished by rubbing with a woolen cloth. I found those thus treated, kept much better than those not polished. You notice this was done in the fall, while in the other case not until spring. We usually head our apples in barrels, letting them stand out until about the middle of Nov. E. P. W. *Belchertown, Mass.*

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☞ We are indebted to Prof. James Hall for most beautiful specimens of Fall Pippin, Yellow Bell Flower, R. I. Greening and Newtown Pippin Apples, grown in his garden in this city. It is worthy of note that the Newtown Pippins were without a blotch and as perfect and handsome as any one could desire.

[For the Country Gentleman and Cultivator.]

"HOW MANY CARROTS PER ACRE."

Messrs. Editors—In answer to the inquiry of Mr. S. G. Collins, in your number of Nov. 27, I give you the result of my efforts the past season upon one acre of land under the system suggested by W. S. H. Welton, Esq., of Grand Rapids, in this State.

The soil is a sandy loam on a clay subsoil not very far below. It had been broken up two seasons previously and an old turf turned under. The first season it was devoted to potatoes, the first crop I suppose ever raised from it besides grass; and the second year to carrots, with a fair manuring. This year it was well manured again, sowed with carrots in drills three feet apart, and cultivated with horse power. At the proper stage of growth the rows were thinned by the hoe, leaving as a rule the plants the width of the hoe apart. About the middle of July the spaces between the rows were sowed with flat turnip seed, by hand. No more weeding was done, the turnips sown taking the place of those unwelcome intruders with their broad leaves. In part of one row in carrots where the seed failed, mangolds were sown. The labor expended in weeding was nothing comparatively.

Now for the crop: We harvested, by measure, one thousand bushels of excellent carrots—two hundred and fifty bushels white turnips, and thirty bushels mangolds, worth in the Detroit market, five and a half miles distant, as follows:

Carrots, 30c. per bushel,	$300
Turnips, 20c. do.	56
	$356

So much for reading your valuable journal, and the pursuit of "book farming."

I consider the crop invaluable for stock, especially milch cows and colts, of which latter I raise a great many; and I would say to Mr. Collins, keep on with the culture—it is the carot-*id artery* of pleasant and profitable stock husbandry. E. N. Willcox. *Whitewood, Wayne Co., Mich.*

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[For the Country Gentleman and Cultivator.]

DEEP PLOWING &c.

Editors Co. Gentleman—I will give my experience of deep plowing. I have a field that was tramped in the spring when wet, by hauling gravel over it for a railroad, and it was cut up into a perfect road. There were six acres in the field, and they went from one corner to the other the long way, and in the summer when it dried off, it was as hard as a road could be, with gravel scattered all over it, and I thought the field was ruined. The soil is a stiff clay. I plowed it in the fall, and the next spring sowed it in oats, and had a good crop; but after that it became so sodden and heavy, that it would not produce anything but the wiry kind of blue grass that is so injurious to wheat in some parts of the country; and when the field was sown in wheat, it did not produce more than five or six bushels to the acre.

Having read several accounts of the benefit of deep plowing for such soil, I thought I would try it; so I went to a plow maker and got him to make a double Michigan plow for me, and make it strong and good, so that it would not wear out, while plowing a small patch, as some of them do that are made to sell. I paid him five dollars extra for it. When I got it, I plowed the above mentioned field in November, and in the spring following stirred it with a two horse plow—(by the way, my double plow is a four horse plow, and it does the work the best of any plow I ever worked with)—and sowed it in buckwheat, and in August, when the buckwheat was in full bloom, I plowed it under by fixing a chain to drag the top down so the plow would cover it good. Then in September I harrowed it, and drilled it in wheat, putting one and a half bushels of seed to the acre, without any other manure than the buckwheat, and the result is, I harvested twenty bushels of first quality wheat to the acre, the first crop.

I now have the field sowed in peavine clover, which I think is the best kind for enriching the land, and my calculation is to plow it under with a full crop on it, and plow it with my four horse plow and sow it to wheat, then in clover, until it gets mellow again, and then if I live I will report the result.

I plowed a piece of creek bottom land for corn, and increased the first crop after deep plowing fifteen bushels to the acre, and without any manure, for I put all the manure on my clay land. J. L. V. M.

Green Co., Ohio.

LARGE AND SMALL HORSES.

It is well known to scientific men that a model is stronger, more perfect, and will work better than a full sized machine. The reason is this, that while the cross-section or real strength of each part increases as the *square* of the lineal dimensions, the weight increases as the *cube*—to which is to be superadded the increase of momentum of every moving part as the increase of diameter. If, for example, a model is six inches long, and the full sized machine five feet, every part of the latter is made ten times as great in diameter, and a hundred times as strong or greater in cross section. But the weight is increased as the cube or a thousand times. While the large machine, therefore is a hundred times as strong, every part becomes a thousand times as heavy, and the momentum of every moving part is increased ten thousand times — tending to knock the whole to pieces. Hence, while the small machine or model may be quite strong enough for all that is required of it, the larger one may be quickly deranged or broken. For this reason, we perceive the wise provision in Creation, of all animals being made more massive in structure as they become larger. An elephant is, as he must be, more massive and muscular in proportion than smaller animals. A spider may drop ten feet without being injured; but made the same shape, and weighing half a ton, and he could not stand; his own weight would crush him.

Now, the question occurs, how far does the same principle apply in the selection of horses? As a *general average*, horses consume food according to their weight; a horse weighing 1,200 pounds, will eat one half more than one weighing 800. It is doubtful if [illegible] is proportionately effective. The Maine Farmer says, "one of the most experienced horsemen,—one who knows so much about a horse, that what he don't know isn't worth knowing,—is of the opinion that for all general purposes, a 900 lb. horse is better than one which goes above this, say eleven or twelve hundred. He has found that a horse weighing 900 lbs. will do all the work of a horse 200 lbs. heavier, with as much endurance, and with less feed." In Maine, however, oxen are largely employed for slow heavy work; and it may be that when horses take their place, a heavier sort may be desirable. The time of the driver is more valuable than that of the team, and it becomes an object for the team to execute as much under his care as practicable. It is now well established that a three horse team working all abreast, will do nearly if not quite as much labor as a four-horse team with two ahead. The three horse team is easily managed by a single driver, who will hold a plow and drive the three without difficulty. Horses should therefore be large enough that three may do any work on the farm. The question is, are not three small ones better than two large ones? Every one knows that some horses of equal size are much superior to others; but taking the best of any size, which is the most profitable, all things considered? Shall we not have the model principle, above mentioned, practically and accurately tested by a series of experiments?

HAY REQUIRED FOR SHEEP.

One ton of good hay is thought sufficient to keep five sheep through the winter, by J. M. Smith of Somerset Co., Maine, who keeps about 150 fine-wool sheep, now averaging six pounds per head. The time of feeding is about five months. Good care and shelter are given, and are considered very important requisites to profit.

Another farmer of the same county, S. Dinsmore, Esq., regards the feeding season as 160 days, and considers 2½ pounds of hay per day, a sufficient amount for a sheep, taking the average of flocks. By improvements in breeding he now clears $100 per year extra from the same number of sheep kept formerly, at the same expense for feeding.

Queens County Agricultural Society.

The [illegible] Meeting of the above Society was held at the Cou[illegible] on Thursday, Dec. 4. The President, DANIEL [illegible], Esq., in the chair. The attendance of members was large, and the usual Premiums were awarded on Field Crops, Grain, Butter, Vegetables, Fruit and Poultry. The Treasurer reported the balance on hand, after paying all expenses, about $1,600. The following officers were unanimously elected:

President—JOHN C JACKSON, Newtown.
Vice President—Townsend D. Cock, Locust Valley.
Secretary and Treasury—John Harold, Hempstead.
Directors—S. M. Titus, Glen Cove, and S. B. Mersereau, Hempstead, for three years, and John I. Van Alst, Newbern, for two years.

We notice among the premium Field Crops reported, that of Indian corn, for which the prize was given, and the yield of which was reported at 101⅔ bushels on one acre. It was produced by THOMAS YOUNGS, of Oyster Bay Cove, who submitted the following statement:—

The soil was in medium condition, having been in pasture for the last four years. On the 21st Oct., 1862, carted and spread garbage on the sward at the rate of 50 New-York carman loads to the acre. June 30th, 1862, spread on the corn, 12,000 fish to the acre. Plowed the sward April 30th, with a two-horse iron beam plow (called the Clipper Eagle,) from 5 inches to 6 inches deep. It was marked out with a sled with three runners, four feet apart, drawn by two horses. Planted 12th of May, and came up about the 20th. Five or six kernels were dropped in the hill; five stalks were designed to be left in the hill; variety, eight row white flint. Was plowed three times and hoed once. The top stalks were cut about 25th September. Two large loads of stalks, worth $4.00 per load. The corn was measured into one and a half bushel basket which made 231 bushels of ears. The whole of the corn was weighed, and there were 7,365 pounds. I then shelled two baskets and the shelled corn weighed 73½ pounds, which makes 101⅔ bushels, at 56 pounds to the bushel.

VALUE OF CROP.

101⅔ bushels of corn, 70 cts.,	$71.16	
Worth of stalks in the lot,	8.00	
Total,		$79.16

EXPENSES.

Cost of garbage at the Landing,	$10.00	
One man and team one day carting,	3.00	
12,000 fish, at $1.00 per 1000,	12.00	
Carting fish,	2.00	
One man and team, plowing and harrowing, one day,	3.00	
Marking and planting,	1.00	
Three times plowing,	2.00	
Hoeing once,	75	
Five men one day harvesting,	5.00	
Total expense,		$38.75
Profit of crop,		$40.41

ALDERNEY COWS, HEIFERS AND BULLS,

For sale by ROBERT L. MAITLAND,
July 31—w&m1yr. New-York City.

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Feb. 13—w&mtf. Hazelwood, Albany, N. Y.

FARM FOR SALE.—The late D. SIMMONS farm, containing 265 acres, situated nine miles from Albany, four miles from Troy, one and a half miles from [illegible] one-half mile from New-York Central Railroad. It has

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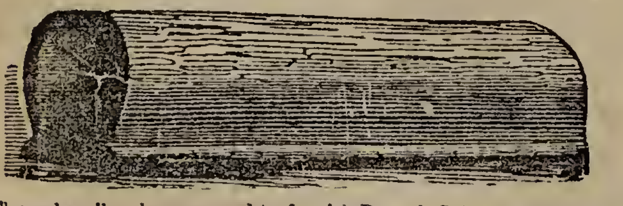

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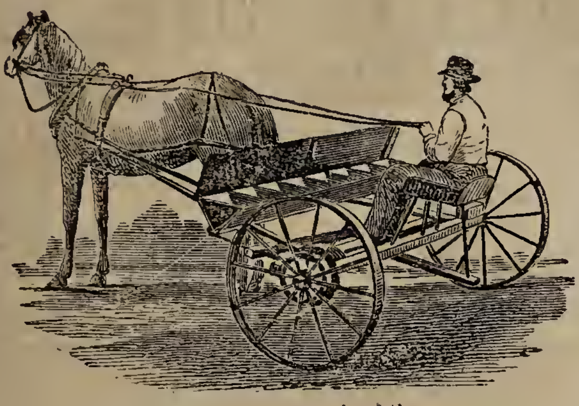

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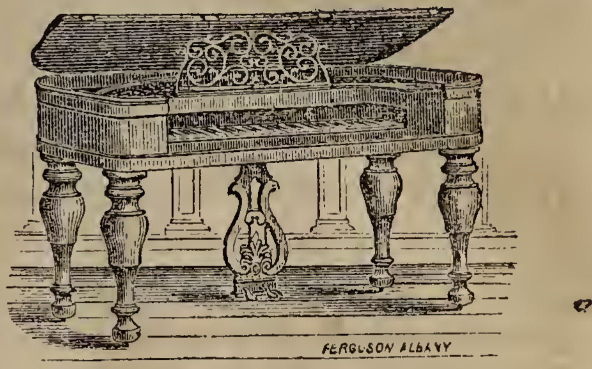

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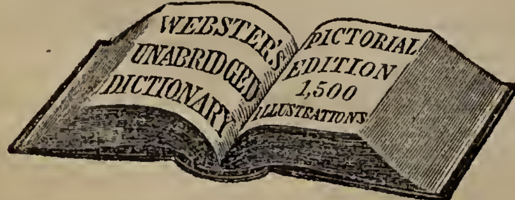

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THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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☞ The Dog tax in Monroe county, N. Y., this year, amounts to about $3,500. This money, so far as it will go, is distributed *pro rata* among those who have lost their sheep by attacks of dogs, the owners of which cannot be found.

The Cultivator & Country Gentleman.

Characteristics of Leicester Sheep.

Inquiries have recently been made through our columns, as to the characteristics of Leicester sheep. A correspondent of the Mark-Lane Express urges the system of judging at agricultural shows, on both cattle and sheep, by the adoption of a scale of points in each breed,—according to which scale the competing animals are to be carefully marked, and the awards declared according to the result of these marks, instead of from the general impressions and opinions of judges, as at present. He then suggests a list of points for Leicester sheep, of which he seems to be well qualified to speak, and we copy it for the purpose of supplying the information referred to above:

POINTS OF LEICESTER SHEEP.

Head and ears,	2	Belly,	2
Neck,	3	Leg of mutton,	4
Collar,	2	Hock joint and hind legs,	2
Blades,	3	Flesh,	6
Chines,	3	Wool,	4
Back,	3	Symmetry, viz.:	
Loins,	2	Straight line from back of poll to near the rump,	3
Hips,	2	Girth at back of fore-leg, close to elbow so great that hind quarters are hidden when facing sheep,	6
Rump,	2	Size with symmetry,	5
Shoulder kernel,	1		
Outside shoulder,	1		
Setting on and form of fore legs,	2		
Width and length of breast,	3		
Depth of rib,	2		

Twenty-three points, sixty-three marks.

A sheep possessing any one of the following bad points should be excluded by the judges, however good it may be in its general points:

1. Want of girth at back of elbow, to make its fore hide its hind quarters.
2. A very bad neck.
3. Badly placed blades.
4. Deficient chines.
5. Bad leg of mutton.
6. Narrow breast, with badly placed fore-legs.
7. Deficient wool.

In connection with the foregoing, it may be remarked that the method of judging by such a scale of points has never been tried, to our knowledge, more carefully and thoroughly than by the Committee on Devon Cattle at our State Fair at Watertown in 1861. The results are published at length on pages 122 and 123 of the last vol. of the Society's Transactions. It was found that different judges when marking the separate animals without consultation, agreed almost exactly with one another in the marks given, and that the awards thus decided were entirely corroborated when a second committee came to pass upon the same animals in the ordinary way of judging. It was thus proved that there is certainly nothing in this system likely to mislead, while the advantages it possesses are that the report shows a solid basis for the committee's decisions, and, in point of fact, they can only be reached after thorough scrutiny, and strictly on the merits of the case. Beside this, every report thus drawn up, places before the mind of the breeder a much clearer and more distinct aim in which to direct his efforts, and tends to promote both the purity and the improvement of the breed.

[For the Country Gentleman and Cultivator.]

BEING COMPELLED TO FARM WELL.

Farmers are too apt to regard some of their blessings as evils. Some years ago, we had an extraordinary drought at the close of summer. They complained much. The following winter was the most intense known. Fruit trees, and many other trees, would doubtless have been totally destroyed, had not the severe drought the previous summer induced an early cessation of growth and ripening and hardening of wood. As it was, many trees were less injured than in some milder winters. The following spring was cool, damp and cloudy. Farmers also complained of this cold spring. Had it been as warm and fair as usual, the sun's rays on the fruit trees, after passing through so terrific a winter, must have destroyed many, notwithstanding the preparation of the previous summer. As it happened, all survived. But cultivators complained of the drought, and of the cold spring, the two things that saved them their valuable orchards. No doubt many other orderings of Providence excite complaints and hard feelings, while in fact they are equally beneficial, although the benefit may not be so obvious to our stupid senses.

Sluggish cultivators will not do their work well unless compelled to do so. If weeds never grew, they would be tempted to leave their cornfields untouched; now, in fighting weeds, they give an impetus to the crop. Good farmers do not wait to be thus driven—they do not allow necessity to drive them; on the contrary, they themselves manufacture necessity. One of the finest cornfields we ever saw, was as clean as a floor, yet kept as mellow as an ash-heap by cultivating once a week all summer. The owners of such fields drive business; do not allow it to drive them.

Other things than weeds compel good cultivation. Many years ago, Long Island farmers found that the Hessian fly was destroying their wheat, while the few fields on fertile land escaped. Common or poor culture resulted in total loss. The best management, by giving a strong growth that would withstand the attacks of the insect, was followed with entire success. Farmers were *compelled* to farm better, and the Hessian fly, by driving them into the improved system, proved a blessing worth more than thousands of dollars in bank. The wheat midge, although it has destroyed millions of dollars, may have done more good than any are aware. It is well known that crops on the best land are most likely to escape—sometimes the difference between a well-drained, fertile field, and one in poor condition and undrained, is the practical difference between thirty or forty bushels of wheat per acre, and five bushels of bad wheat full of insects, and ten of chess, mixed together. JOHN JOHNSTON has on former occasions given us statements of entire success on his rich well-drained lands, while his negligent neighbors lost most of their crop by the insect. There is no doubt that this insect has had a large agency in promoting the greatly improved condition of our agriculture. The increased product of wheat per acre at the present time, notwithstanding the ravages of this insect, when compared with the product thirty years ago, with a fresher soil and no insect, shows what may be done with the stimulus of necessity. Agricultural publications, by pointing out the means for accomplishing this end, have rendered invaluable service. They have become the powerful agents of the willing and enterprising in effecting improvement, in the same way but in a much greater degree, that the insect has compelled the more sluggish to imitate them, without which perhaps nothing would have done it.

A remaining deficiency on many of our farms, is a want of smoothness. Stones and brush need removal. Wet spots, or the whole surface, need underdraining, that the soil may become uniformly mellow. Good farmers will not wait to be compelled; but the rest will discover in time that modern farm machinery will drive them into smooth fields. Drill sowing and drill culture, which are beginning to effect an immense saving of labor, cannot be performed well among stones and stone-heaps, briers, and elder bushes, nor through beds of mortar, nor among hard and huge clods. Besides the direct saving which these machines are therefore destined to effect, the smooth and finished farming they will yet generally introduce, will be almost beyond estimate. Mowers and reapers will also come in for a large share of the credit of this reformation, for their owners will discover that it is much cheaper to remove by five minutes labor, a projecting stone or other obstruction, than to lose half a day in haying time, with half a dozen hands, besides a five dollar charge for repairs of the machine.

* * *

[For the Country Gentleman and Cultivator.]

OUR FARMERS' CLUB.

EDS. CO. GENT. AND CULT.—In Feb. last, I "took it into my head" to get up a "Farmer's Club," and succeeded so well, considering many adverse circumstances, that I have now "taken it into my head" to tell of it, and give your readers a wee bit of a sample, that some of them may be encouraged to go and do likewise—for sure if *I* can start a Club in a place where there has not been one for 40 years, *anybody* can start one in a more favorable place.

We began with about a dozen members, Feb. 10th, and met every Monday evening till April 14th, when the evenings being short, the going bad and house wanted for repairing, we discontinued with 25 members, having had interesting, profitable and very pleasant meetings.

Nov. 24 we resumed our meetings with good interest, and have now had four meetings this winter, and number fifty members. I think one reason of the success of our Club thus far, is that it was formed for several *distinct* though congenial objects, namely—"1st. The aquisition and dissemination of agricultural knowledge—2d. The promotion of acquaintance among neighbors—3d. The improvement of its members in conversation, composition and public reading and speaking—4th. The improvement of farms, farm implements, stock, buildings, and every department of agriculture."

The regular exercises of the meeting are "reading of the minutes of the last meeting, an original essay or speech not exceeding 15 minutes in delivery, and discussion upon the subject announced at the previous meeting." I think it is the general opinion of the members, that our meetings are among the most *pleasant* and *profitable* meetings of any description that were ever held in our village, and I wish similar ones were in progress in every village and hamlet in the country, and I know of no plausible reason to prevent it. Its all "moonshine" that they can't be sustained because there are none or but few "public speakers." Sustaining such a Club is just the way to make "public speakers." No one can ever do anything that they never tried to do, and will not try to do. It is really amusing as well as remarkable, to see how rapidly *grown up men* will improve in public speaking after the "ice is once broke," and the *breaking* is not really as bad "by a long chalk," as it is cracked up to be—not *half* as bad as breaking baulky steers! No farmer who has raised a crop of corn is unable to tell a neighbor about how he did it, or two neighbors together; and it is just as easy to tell 10 or 20 neighbors, as one or two; all the difference is "*in your eye.*"

But the actual agricultural *profit* of such Clubs is *no trifle.* I believe this town is worth more than *one* or *two* hundred dollars more than it otherwise would be, in consequence of our neighborhood Club, for it does not embrace more than a fourth of the town in any respect. The scarcity of labor is getting to be such that *every* available agricultural facility is in requisition, that agricultural products may be forthcoming proportionate to the demand. The war rests on the farmers' shoulders, and there never was a time when the best implements, breeds, seeds and methods of farming were so necessary as now, and he is a mean *creature*, not worthy to be called *man*, who possesses either and is unwilling to tell others of it, and facilitate their obtaining the same. Agricultural periodicals are good, very good, and no farmer can *afford* to be without one; but Farmer's Clubs can do local good that they cannot do. The reports of the discussions of Farmer's Clubs, published in the papers, are often so *belabored* for the press that much of their usefulness is lost to us plebians.

The following is a *literal transcript* of the minutes of our discussion at the last meeting, Dec. 22, upon *Sheep, Breed* and *Management*, and I hope after reading it, many of your readers will say—"Well, I don't believe but that we could do as well as that in our town," and forthwith go to work and try.

Discussion on Sheep Husbandry.

Mr. P. being called upon to open the discussion, the one appointed being absent, said he owned but two sheep and those belonged to his boys—says that sheep raising is, in his opinion, one of the most important pursuits of agriculturists—thinks there is evidence that we *can* get along without cotton. It is important that attention be paid to the *quality* of the sheep. One of the first considerations is in regard to the amount of wool produced, and keep such sheep as are well filled out, and well proportioned, so that there shall be no *bare* spots without wool. Advises to keep store sheep in good condition, that they may be less liable to the various diseases that afflict sheep. Says he once bought a small lot of lambs at $1.50 each, and kept them chiefly on oats and India wheat, through the winter, at a cost of not more than ten shillings per head, and in the spring sold them for $5 per head.

N. G. says he has not been much of a sheep man—has recently bought a few of the fine wooled "Spanish Merinos"—hopes to hear in regard to the best breed from others; thinks sheep should all be well sheltered, and have good feed, something better than hay alone.

Mr. A. inquires the comparative cost of a pound of butter and a pound of wool.

Mr. H. says he had as lief raise one pound of wool as two lbs. of butter; thinks the Spanish Merino the best breed; they are hardy and far superior to the French Merinos. He does not prefer the most gummy—would have short, large legs, and symmetrically built throughout, with a very broad tail; would keep them *well* through the winter, under a shelter but not too close; would have the young ewes drop their lambs about the middle of April if they have good shelter, old sheep a little later. He says his sheep average over six lbs. of wool per head per year. In the winter season feeds them twice a day with hay and once with straw, and generally some grain, any kind that will keep them fat. Cannot tell the reason why some sheep pull their wool, and don't know why lambs sometimes eat wool from their mothers. Sets a trough, with tar, sulphur and ashes, in the yard, that the sheep may go to it as they wish; not certain whether salt is good for sheep or not; sometimes gives it. Has lost more sheep with the *stretches*, than any other disease; has not fed many roots to his sheep—don't know but it would be desirable. Sheep don't always die with the stretches, but if they don't get better in 24 hours, there is little hope for them—never knew one recover after two days; don't fully understand *what* the disease is. He usually shears his sheep the last of June or 1st of July; always washes his sheep before shearing—thinks an average weight of his sheep alive, in Dec., is 75 lbs.

Mr. McI. said that he has been told that the stretches was a knotting of the intestines, or one slipping into another, and that a certain *jerking* by the hind legs would cure the disease. Two members said they would give $50 each for a sure cure. He is decidedly in favor of fine wooled sheep for this climate—thinks six sheep weighing about 80 pounds each, will eat as much as one cow—can produce a pound of wool as easy as two pounds of butter. He feeds his sheep three times each day by daylight—rarely salts his sheep, and never in the winter, unless there has been several days of warm weather—feeds coarse salt if any. Mr. P. has been told that when fattening sheep, salt should be kept constantly before them.

Mr. M. has had experience in wearing woolen shirts in very hot weather at the south, (as a soldier,) and is confident that it is better than cotton for hot weather, as well as cold, and therefore sheep-raising is a matter of consequence to farmers. They should regard the amount of wool, and also the comparative cost of keeping—thinks all animals should be kept *well*, sheep included. Coarse wooled sheep make the best mutton, but the fleece is the thing of chief consequence. Has asked several sheep-raisers in regard to the comparative cost of keeping different grades of sheep, and has always been told that it costs no more to keep such as shear 6 pounds of fine wool per head, than those that shear *half* that amount—is not in favor of routing up sheep in the night to feed them.

Mr. D. thinks there is more in the management of sheep than the breed. If any man would raise sheep profitably, he must take good care of them—thinks the time between "hay and grass" is the most injurious to sheep, and they require particular care at that time. It is very essential to feed some grain and roots at this time, after which they will do well on good hay, with suitable shelter—in favor of sheep weighing about 75 lbs. each. He owns some half a dozen long wooled sheep, a mixture of Leicester, Cotswold and South-Down breeds, which have sheared 10 pounds of wool each, sold for the same price as his fine wool—carcasses alive weigh about 130 pounds each. Besides hay he gives about one quart of corn to eight sheep per day—don't recommend giving grain to sheep just before lambing, unless they have been accustomed to it.

C. M. H. says he has followed sheep-raising mostly since he commenced farming—prefers Spanish merinos to any other breed—thinks it worthy of particular attention to secure the best breed—costs no more to keep such sheep as shear 6 pounds than such as shear only 3 or 4 pounds—would keep sheep *well*, but not *too well*—in good order, but not *too fat.* Has examined several sheep that died with the stretches, and has always found the intestines—small intestine some 2 feet in length—swollen badly, full or inflamed, but empty. Sheep live sometimes ten days after being taken with the stretches. Feeds sheep but twice a day, about 9 A. M., and 4 P. M. In selecting sheep looks for the right shape, and then for the length and thickness of the wool. Thinks it well to keep salt so that the sheep can go to it at all times—thinks farmers lose more on sheep "between hay and grass" than at any other season. Sheep should have some at that season.

Mr. H. says that 40 years ago 3 or 3½ pounds of wool per head was an average shearing—says he now has the same flock of sheep that he had 40 years ago, and that his father had before him; would as soon think of shifting off his *wife* as his flock of sheep—shifts his bucks once in two years.

E. B. M. would advocate the doctrine of feeding sheep but twice a day. The cause of sheep pulling their wool is a humor on the skin, caused by changes from heat to cold—thinks some vegetables necessary to keep sheep in condition from "grass to hay"—thinks every farmer that raises sheep should raise roots, so that his sheep can have some each day.

As the time for adjournment had arrived, and several of our best sheep raisers were not present, on account of the bad going, the same subject was continued for another week. R. N. *Randolph, Vt., Dec.*, 1862.

Experiments in Applying Manure.

The Transactions of the Worcester North (Mass.) Agricultural Society for the year 1862, for a copy of which we are indebted to the Secretary, W. G. Wyman, Esq., Fitchburg, contain the results of the third year in three sets of experiments in the application of manure. The manure had been applied on six different plots, as follows:

Number One	Plowed in deep.
Two	Plowed in shallow.
Three	Harrowed in.
Four	Applied on the surface.
Five	No manure.
Six	Manure intermixed.

W. G. Wyman of Fitchburg, gives the following report: Size of field, 1 acre, 32 square rods; plots 32 rods each; crop, mostly clover, harvested July 7–12, and again Sept. 1–6, mowed with scythe, when dew was off, and weighed in the field—the hay thoroughly dried also weighed on plot No. 1, and the result given below, to which we add the calculated total result in dry hay on the other plots:

Plot.	1st. Crop Green.	2d Crop Green.	Total Green.	1st Crop Dry.	2d Crop Dry.	Total Dry.
No. 1	3,238 lbs.	1,334 lbs.	4,572 lbs.	1,163 lbs.	568 lbs.	1.731 lbs.
2	3.078	1,754	4.832	—	—	1.829
3	2,892	1,534	4,426	—	—	1,677
4	2.788	944	3,732	—	—	1,414
5	998	172	1,170	—	—	443
6	3,592	1,366	4,938	—	—	1,871

Of the whole field it will be noticed that there was just an acre which had received manure; the product of this acre was 11¼ tons green hay, or 4½ tons well dried hay.

Albert Stratton, North Leominster, carried on his experiments on a field of 45 square rods, and harvested Aug. 1, 1862, the following weights of well dried hay from the several plots into which it was divided, under the same classification as above, with the omission of the 6th plot:

No. 1	288 lbs.
2	269
3	336
No. 4	345 lbs.
5	258

In this experiment, however, it is stated that lot No. 2 appeared about the same as Nos. 3 and 4, but a small part of it having been winter killed or otherwise injured, the product was thereby diminished.

Isaac B. Woodward, Fitchburg, conducted the same experiment on five plots of 4 square rods each, and cut from them well dried hay, as follows:

No. 1	130 lbs.
2	135
3	136½
No. 4	146 lbs.
5	88½

The weather in the 1st and 3d experiments is noted as follows, and in the 2d very nearly the same:

	First Third.	Middle.	Last Third.
May,	Dry	Dry	Moist
June,	Moist	Moist	Wet.
July,	Dry	Moist	Wet
August,	Dry	Dry	Dry
September,	Dry	Dry	Dry

Of the three sets of experiments, the heaviest crop was thus gathered, in two of them, where the manure was applied *on the surface*, and in Mr. Wyman's, (who was the only one who tried a plot of this kind,) where it was thoroughly intermixed through the soil. Throwing out this sixth plot in Mr. W.'s experiments, his best crop was where the manure was plowed in shallow; and the second best crops, in two cases, were harvested where it was harrowed in, and in one case where it was plowed in deep.

The most prominent point in all these experiments seems to be the importance of *applying manure*, (comparing the unmanured plots with those which *were* manured,) and the secondary nature of the inquiry *how* manure should be put on, so only it is in some way applied. The best and most complete intermixture of it with the soil doubtless increases its good effects very greatly; and when this is *not* done, the general weight of experiment and observation seems to tend to the opinion that the deeper it is buried under ground, the farther it is out of the way of the growing plant—while, if simply scattered over the surface, the falling rains may carry down its more important ingredients, and render them nearly as useful as if intermingled by hand with the particles of the soil.

In farther illustration of the best depth at which to apply manures, we note a recent discussion by the Whately, Mass., Farmers' Club, as officially reported in the Greenfield Gazette and Courier (which ranks, by the way, at the head of all the country papers we exchange with, as a local journal.) The subject especially debated was the application of manure upon the *tobacco crop*. "One gentleman stated that he had hitherto practiced the death and burial operation of plowing in his manure seven or eight inches deep, until the past year; that the idea of applying manure was two-fold—first, to obtain a crop, secondly, to permanently benefit the land. He thought that he too often accomplished the latter object by a sacrifice of the first. This year, after plowing in the bulk of his manure on one piece, he concluded to fit another piece by harrowing in the manure. He accordingly made an application of about one-third of the quantity usually plowed in, and harrowed the land thoroughly, thus mixing the manure intimately with the surface of the soil; then before setting the tobacco he harrowed in thoroughly four hundred pounds of guano, mixed with an equal amount of plaster, to the acre; other treatment the same as the other field. Result, the best and ten days the earliest crop. Another strip large enough to set four hundred plants, instead of harrowing in the manure, he spread it upon the surface, then threw the land into ridges with a one horse plow, and setting the tobacco on the top of the ridges, using a little superphosphate in the hill. This experiment was so successful that he should try it again on a larger scale. In this way all the manure is thrown directly under the rows. The land is a light sandy loam, and dry.

"Another gentleman said that this last year he covered his manure with a plow, from two to three inches. Sod ground, turned over the previous fall, seven inches deep. Thinks that he has lost five hundred dollars by burying his manure so deep on his small farm, in six or eight years. He wants the manure so near the surface that the tobacco can get hold of it the first part of the season. Gave the result of an experiment with one dollar's worth of yard manure, and the same value of guano, and of superphosphate. The yield was respectively forty-six pounds, forty pounds, and nineteen and a half pounds. He and others were decided in their expressions of dislike for Rhodes' superphosphate so much praised by Dr. E. Pugh in the Country Gentleman last spring. The Club were nearly unanimous in favor of covering manure less deeply, being governed in this depth by its fineness.

"Another gentleman said that he cultivated from fifteen to twenty acres of tobacco annually, and that he does not want to plow his land over five inches deep, thus leaving his manure as near the surface as possible; manure, coarse and strawy. Sows his guano on the surface of the plowed field and harrows in, sometimes using Shares' cultivator harrow for this purpose, drawing it both ways. In the hill, applies superphosphate. Used one ton each of Hoyt's and Coe's; the latter has proved far the best this season, with a fair trial, two rows being manured with Coe's and the alternate rows with Hoyt's, through the field. Had always used Hoyt's heretofore, and was prejudiced agains Coe's. He said that if his manure was fine, he should choose to harrow it in."

The Collection of Agricultural Statistics.

Under the Law for the Collection of Agricultural Statistics in this State, enacted at the last session of the Legislature, blanks prepared under the supervision of the Executive Committee of the State Agricultural Society, have been provided by the Comptroller, and forwarded to the Presidents of the County Agricultural Societies, together with copies of the Law, in order that the duties therein required to be performed, may be fully understood.

This law, it will be remembered, enjoins upon the agricultural societies receiving bounty, either in money or books, from the State treasury, the complete collection of our agricultural statistics, by the appointment of an enumerator in each school district, who shall make returns to the president of the Society from which he receives his appointment. The Society is then to enter the returns of the several school districts in the county under its jurisdiction, upon similar blanks; to foot up the aggregate for the county, and to transmit the blanks containing these aggregate results to the Secretary of the State Agricultural Society, "on or before the 1st of February."

In return for the labor thus performed, the County Societies are to supply the district enumerators with copies of the Transactions of the State Society and of the American Institute, to be furnished for the purpose by the State; and every Society faithfully performing its duties under the act, is to receive the same pecuniary bounty heretofore paid by the State, *without* being obliged, as hitherto, to procure a similar amount, by subscription or otherwise, in order to receive its appropriation. In counties in which no societies exist, the appointing power, as respects district enumerators, is lodged with the Executive Committee of the State Agricultural Society, who are authorized to pay from the State Treasury a proper compensation to such enumerators, provided only that the aggregate of this compensation shall not exceed the amount that would be drawn by a county society if in existence.

Such, in brief, are the provisions of the law, and, as this is the first year of its operation, this short explanation of its requirements will call the attention of the farmers of the State, and the officers of local societies, to the importance of complying with its provisions. Its intent is simply, in the interest of the Farmer himself, to inaugurate the annual collection of a mass of facts bearing upon his pursuit, calculated not only to aid him in its prosecution, but also to exercise an important influence, as we believe, upon his personal prosperity, and upon the repute and thrift of the State itself.

The Annual Collection of our Agricultural Statistics, while its good results will some of them be immediately perceptible, is like planting a tree which will yield a larger and better crop for generations that are to come. Among its earlier fruits, we should anticipate a better illustration than we could derive from investigations of any other kind, *of the growing prosperity of our agriculture.* We need, in order to retain on our own fields the labor and enterprise of our young farmers—so many of whom, during the past twenty years, have migrated to the West—we need the means of showing the actual returns now obtained here, and to elucidate, by a comparison of the returns of different counties and districts, the comparative improvement attained in each, and the necessity which the more backward should feel, to emulate the better success of their brethren elsewhere.

Such statistics, moreover, will operate, in a far more perfect manner than any Board of State Assessors can do it, to equalize the taxation of the State. We take it that every county is willing to bear its fair share of the burden, and only objects where changes are made, based, at it may be feared, upon insufficient testimony. But in the properly collected returns of the farming of the State, we have figures which involve neither errors of judgment, nor personal partialities—which are equally fair and just for all—which would base the valuation of lands, not upon what they might be made to yield, but upon what they actually *do* produce from year to year.

Again, the immediate tendency of these statistics, as regards the value of land, is an important consideration. Suppose Mr. A. has a farm to sell, and can lay before the intending purchaser the annals of the school district, and of the county in which it is situated, for a series of years,—we fully believe that many a man who might otherwise go elsewhere to settle, will be a purchaser of land in New-York. The peculiar advantages of each location will be indicated, so that selection may be more judiciously and satisfactorily performed.

These remarks are made under the sincere belief, founded on observation, and from association with the farmers of the State, that the tendency of our Agriculture is decidedly of a progressive character, and that, as it improves with each successive crop hereafter to be gathered in, the advantages of New-York as an agricultural State, will become constantly more and more evident. If we lived in a State whose soils annually bore witness to a greater and more hopelessly irretrievable degree of exhaustion, or whose Farmers were plainly becoming poorer and less enterprising, we should be energetic opponents of this Law. If we lived in a County, the products and characteristics of which we were ashamed and afraid to make known, —where we never desired to have new capital invested and new measures of improvement tested and promoted, —out of which we hoped to have our children emigrate, with no prospect of selling the inheritance they were abandoning, except at a sacrifice—we should coldly stand by and permit the law to remain inoperative and the whole measure fall to the ground. If we were ready to confess that on a farm of our own, and on the farms of our immediate neighbors, nothing but bad management and constant losses were the result of the labor performed, and that they and we were daily approaching a condition of bankruptcy, we should absolutely refuse or quietly neglect, when the enumerator requested our returns, to answer his impertinent interrogatories with one single word of information, or to aid him in any way in procuring it from others.

We shall therefore watch with interest the working of this law. The blanks have been already sent to very nearly every county in the State. Those counties and districts which are the slowest to manifest the public spirit necessary to secure the returns required, or which pass them by, will not secure for themselves a very enviable reputation; and we are glad to know that, in so many, measures are already under way to comply with the provisions of the act. The labor is considerable, but when divided up among so many—if those are selected who enter into the matter cheerfully and in earnest—it will nowhere be a heavy burden, and we trust it may entail the most gratifying results, and that it may open the way to the future collection of the decennial census of the State in a much more reliable and much less expensive manner than has been the case hitherto.

[For the Country Gentleman and Cultivator.]

METHOD OF RAISING FIELD CARROTS.

Messrs. Editors—Mr. S. G. Collins, page 353, Co. Gent. for Nov. 27, asks for "a good article on the raising of carrots." I do not undertake to supply such an article, but in case none of your more experienced correspondents answer the call, the following is at your service.

In former numbers I spoke of the yield and comparative value of this crop. I stated 1,000 bushels as above an average crop, but gave some extempore measurements from my field, which indicated a yield *greater* than this.

Mr. Collins remarked upon it, that both himself and his neighbors are unable to arrive at such high figures, or even two-thirds of it, although using plenty of manure, great care and thorough cultivation. Mr. C. has probably since read in your columns the actual measurement of that field, showing a greater yield than was at first intimated. In this connection the manner in which these carrots were raised, may be presumed to answer for a method until a better one is offered.

Three years ago the land was deeply plowed and subsoiled with the "lifting" variety of plow. The next year the same was done at right angles to the first. The last four crops have been corn, carrots, and beets each year, with manure. I could see no difference where the crops of this year crossed the carrot plot of last year, although my neighbors assured me that there would be such.

Preparation of the Ground.

The ground for the last crop was plowed last fall, the plow running about 10 inches deep, although 6 inches would have loaded a good team before subsoiling. Manure from the cow stable, which is kept well littered with spent tanbark, was hauled on daily during the winter, and spread and dragged in in the spring.

As soon as the ground was dry enough, I gaged up the land into parallel ridges precisely 2½ feet apart. Then, with two horses walking in the furrows, I run a lifting subsoil plow through the middle of the ridges to a depth of 17 inches. I then rolled it with a field roller, which, as it bore only on the ridges, pulverized the lumps raised in subsoiling very thoroughly. This brings me to the

Preparation of the Seed.

By rubbing hard through seives, and by picking, I clear the seed of all the stems and *small seeds*, and also most of the little burrs which are attached to the end of each seed, causing them to adhere to each other. I then usually coat the seed with flour, plaster, ashes or lime, either or all. It is done thus:

First wet the seed, upon a table, with a solution of granulated sugar or gum arabic. Then sprinkle on plaster, or whatever is desired, and rub and roll till the seeds do not adhere, and are dried off. It may be exposed to the sun to dry, or for dispatch may be dried off in a kettle over a slow fire, rolling and rubbing to make the pills round and smooth. Other coats may be added till such size is attained as may be desirable for the kind of sower used. One coat even will be found of much service in the even distribution of the seed.

I thus prepared most of my seed this spring, and was enabled to sow it by a machine like corn or peas, a single *pill* or seed at a time, and very even and thin. But for the benefit of experimenters I will state that not one-half the seed germinated. I used fire heat in drying, and trusted to another what I generally do myself. The year previous I dried in the sun, and the seed did well.

As to the material for coating, the flour coats fast; the ashes increase slowly alone, but I like them. The plaster dries off well, and the lime is useful in forming a smooth, hard coat for the last. As the seed swells in the ground it bursts the shell. On the 22d of May I commenced

Sowing the Seed

on the ridges as left by the roller. With two horses in the furrows the machine sowed and covered the seed exactly in the middle of the drills, and consequently directly on the cut of the subsoil plow. I let the machine sow about 3 inches apart, a single seed at a time. This seed failing to germinate, I sowed again, with the machine, the raw seed, (not having time to coat it,) without farther preparation of the ground.

It will be observed that the seed has under it an increased depth of the best soil thrown from the furrows, which is not packed by horses' feet, as in one horse cultivation, or as in the random work of preparing the whole surface and *then* laying out the rows. In the latter usual method a great portion of the best soil is of no use to the plant.

The Cultivation.

As soon as weeds appear, whether the plants show or not, I passed over the field with the machine, cutting all the weeds except a strip of two inches, in the middle of which were the carrots. As soon as they were sufficiently strong, I gave boys 5 cents per row (41 rows to the acre) to weed this strip, by which they made good wages.

As the weeds appeared, it was again cultivated, pulverizing all the space except the centre strip. The boys were again employed to clean out and thin this strip by hand at 5 cents per row. On one plot *behind the barn*, they availed themselves of some nice, sharp hand hoes, by which they made money fast. What I said when I discovered their labor-saving contrivance is of less importance than the fact that by means of their careless use of it the field was short about half a crop. I presume other fields lose as much from the careless motion of the hoe.

In thinning out, I disregarded the general rules of the books, and reasoned the matter thus: If the usual established rules for carrots—6 to 8 inches apart in rows 12 to 15 inches, be correct—then for rows 30 inches apart, three inches would give the same number of plants per acre. But in my field I have seen good carrots grow in close proximity. By having half the number of rows for the same number of carrots, I shall save 50 per cent. of the weeding, thinning, sowing and plowing out. According to these suggestions, I left the plants quite thick in the rows—often one inch apart, but taking care to remove all clusters of more than two, and to select the weakest plants to remove.

In sowing I applied a sort of separator to the drill, which divided the seeds as they fell, and they reached the ground through different channels, and at different points. Therefore the clumps were few.

To some rows I sowed ashes and plaster with the seed, but saw no effect from it.

As the plants and weeds grew, I run the machine through them. When the tops spread over the ground, I used the horizontal knife on the machine, which reached under the tops, shaving up the earth and cutting any weeds close up to the row.

Eventually the tops of these carrots lapped together, covering the *entire space* (30 inches) between the rows. When an occasional weed had struggled up through the tops and showed signs of seeding, I made it the duty of my morning visits to pull it out. There was not more than enough to make the labor pleasant.

Harvesting the Carrots.

With a *sharp* hoe I first cut off the tops from say half a dozen rows, to rake the top into a winrow. I then run the subsoil plow through close to the row. The White variety are then easily picked out by hand and thrown in heaps to dry before carting in. For the Orange carrot a furrow of the common plow should precede the other. The tops are carted to the cows, and the roots are dumped from the cart through the barn floor into the cellar.

The yield of this field was given in a former number of the Country Gentleman, as also the weight of the tops.

I found in harvesting, abundant evidence to sustain my views of less thinning than is usually practiced. When the plow removed the earth from one side, good even sized roots were seen standing in close contact, as Jimmy said, as thick as comb-teeth.

Specimens were taken to the State Fair, and took a premium, which grew so close together as to be flattened on two sides, and yet they were seventeen inches long. I have no doubt that in good soil a greater yield of carrots per acre may be had, standing at a distance of 2 inches apart uniformly, than at six inches—that is where the distance between the rows is 30 inches or so much as to give good ventilation. Perhaps three inches were better, but where plants chance to stand 2 inches apart I would not pull one and leave them four.

Elmira, N Y. S. W. HALL.

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[For the Country Gentleman and Cultivator.]

Cost and Durability of Wire Fences.

In the Country Gentleman of Feb. 20th, 1862, (page 123, 3d column,) occurs the following passage: "Wire fences, which have been tried and found not to answer any useful purpose." As the passage, in a journal like yours, may deter many from building wire fences, I shall endeavor to show by comparing with other fences, that it is the cheapest fence that the farmer can build. We have fences of wire which have been in use eleven years, and still nearly as good as new. We use large white oak posts, 18 or 20 inches in diameter, and eight feet long, for the end or drawing posts of the fence. These we set in holes dug three feet square, and three and one half feet deep, leaning back a little, and fill the holes with small stones. To these posts are used two braces twelve feet long, and six inches across the small end, to keep the wires from drawing the posts forward. The braces are fastened by cutting a notch near the top of the large posts, and at the proper distance from the post a short sill, six feet long, is laid about a foot deep in the ground for the butts of the braces to rest against. Then the tops of the braces are slid in the notch. The butts of the braces should not be over three feet apart. The other posts, which are of white oak, and six feet long, and not less than six inches in diameter, are placed 33 feet apart. We formerly placed them 66 feet, but this is too far. We use No. 6 annealed and selected wire. The different pieces are joined by lapping two ends and twisting one end one way and the other end another way. Holes are bored through one end of the post, (which we dress down on the side opposite the notch,) six to ten inches apart, the nearer the ground the closer the wires must be, as cattle, calves, &c., will endeavor to creep through. We use six wires to the fence. Begin by putting the wire around the end post not dressed and between the braces, and lap the end of the wire around the wire, and when you come to the other end, put the wire through the hole, where we use cast iron rollers to draw the wires to tighten them. These rollers are six inches long, two inches in diameter, and have a hole through them near each end, the hole at one end being one-fourth way round from the hole at the other end. Near one of these is a small hole for the wire to go through. After drawing the wire as tightly as possible by the hand, cut the wire off and draw by the roller, by placing a small bar in the large holes of the roller. When the wire is drawn tight enough put a pin in one hole to keep the wire tight. We use wrought iron or cast iron hooks to fasten the wires to the other posts. We think that a fence put up in the manner described, is the cheapest one we can build, and we are making our new fences of wire.

They will last as long as post and rail fence, and when one post rots off another can be put in with but little trouble, costs but little to keep in repair, are soon made, and no snow drifts along them, as there is nothing to stop the snow. Now let us compare the cost of a wire fence and a post and rail fence, each a quarter of a mile long:

Estimated cost of a Post and Rail Fence, 4 *rails high.*

121 posts, at 20 cts.	$24 20
480 rails, 12 feet long, at 12 cts.	57.60
Cost of material,	$81.80
do. do. of wire fence	59.50
Difference in favor of wire fence,	$22.30

Estimated cost o a Wire Fence, with six wires of No. wire.

960 lbs wire, at 5 cts.	$48,00
40 small posts at 18¾ cts.	7.50
2 large do. 37½ cts.	75
4 braces at 25 cts.	1.00
6 rollers at 25 cts.	1.50
240 hooks,	75
Cost of material,	$59.50

The above is the difference in cost of material only. The labor of building a wire fence will be less than one-half of a post fence, as there is but one-third as many post holes, and there is no fitting to do, no difference if some holes are further apart than others. F.

Readington, N. J.. Dec. 1862.

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[For the Country Gentleman and Cultivator.]

Experiments in Manuring Hoed Crops.

I see in some back numbers, the question of manuring in the hill, or spreading manure broadcast for corn and some other hoed crops, argued. I presume in both cases the kind of soil and latitude govern this question more or less, and any pretence for one certain mode to be applied in all localities and kinds of soil, would certainly lead as often to failure as success.

My mode of applying manure, after several trials, for corn, potatoes and ruta bagas, is to spread it over the ground thick, and to plant no more than I can spread over. My potatoes invariably yielded poorly with a poor quality, when manured in the hill or row. I could never raise over twelve barrels for one planted, manuring in the hill or row, while in 1861, manuring broadcast, the yield was 135 barrels for six barrels planted, on 2½ acres of ground. This year 10 barrels yielded 494 bushels, or nearly eighteen for one, while for experiment sake, on the same kind of soil, with a good compost in the hill, I raised 2½ bushels from a peck. My ground is a sandy loam.

My last year's crop of corn, manured in the hill, was a small one, yielding not over 50 bushels of ears per acre. The stalks were very tall. I planted my corn this season, the manure spread broadcast on 4¼ acres—and in the same field, alongside the first plot, 1¼ acres with compost of yard, hog and hen manure in the hill. The result was 387 bushels of ears on the 4¼ acres, of sound corn, and about 2½ loads, or 60 bushels of nubbins, while the plot of 1¼ acres, manured in the hill, yielded about 2½ loads, or 60 bushels of ears, only about ten of which seemed sound; the rest was partly fed to hogs and beef cattle, and partly to the fowls. The stalks were not as tall this year as in 1861. Early Burlington corn yielded well, manured in the hill. For a field of ruta bagas of 1½ acres, on a clover sod, I spread 630 bushels of night soil. The yield is 480 bushels, of which were sold 159 bushels at 33⅓ cents, or 3 bushels for a dollar, and 100 barrels at $1 per barrel, delivered in Brooklyn, N. Y.; the balance on hand for use, but not to be fed to cattle at such prices.

I always have my manure plowed in deep when spread in the spring, and shallow in fall. Ashes, of which I have used several thousand bushels these last few years, are only harrowed in. John F. Hillman.

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[For the Country Gentleman and Cultivator.]

Substitute for Court Plaster.

Never having seen in print an excellent substitute for court plaster, for cuts and bruises upon the hands in cold weather, I give you the following:

Take half a dozen pig's feet, well cleaned for cooking, and boil to a jelly of say about half a pint or less—then spread with a brush on any waste scraps of silk, and we find it equal to any adhesive plaster we have ever used. Any fatty substance in the boiling of the feet raises to the surface, and when cold can easily be removed.

One of its chief excellencies is, that it costs nothing but the trouble of preparing, which may deter people from trying it, on the principle, *little cost, little worth.* W. H. S.

Alton, Ill.

[For the Country Gentlemen and Cultivator.]

CULTURE OF CHICORY.

Messrs. Editors—Inquiry is made in your journal of the 1st inst., about the culture of Chicory. My experience is confined to raising a few bushels annually in the garden for our own use.

Chicory belongs to the family of *Compositæ*, or compound flowers, and has a milky juice like the dandelion. It produces its seeds the second year, yet the root is perennial, and even fragments of it live and grow. The root is white, shaped like a carrot, but does not grow as large and has many branches or fibres. The flower stalks are about four feet high, branched with abundant foliage and numerous large blue flowers.

It is principally cultivated in Germany, and used either alone or with other materials, as a substitute for coffee. We import large quantities of it every year, and it is raised to a considerable extent for market by German farmers on Long Island. We were informed by a coffee burner in New York, that one farmer in 1861, raised fifty acres, for which crop when prepared for market he received eight thousand dollars. The price for the dried root in New York, the past year, has been eight cents per pound or even higher.

The seed may be obtained at the principal seed stores. It should be sown in drills like carrots, and receive similar culture. The soil should be light and of easy tillage, and the manure well fermented and finely pulverized. The roots may be dug in October, the tops furnishing food for cattle, though fed in excessive quantity to milch cows, they are said to injure the quality of the milk.

Preparation and Use.

Wash the roots clean, slice in thin pieces, dry in the sun or in a moderate oven, and brown and grind the same as coffee. It is stronger than the pure coffee in equal quantities, gives a good color to the decoction, but does not settle quite as clear as the genuine article. It is an ingredient in all the burnt and ground coffee sold in market. The flavor is agreeable to most persons, and used as a partial substitute for the Java it does very well. We recently treated our friends with a dish of coffee made of chicory, rye, and wheat bran stirred up with molasses and browned like the other ingredients. It was pronounced very good, and they were surprised to learn that it contained not a particle of coffee.

The only objection we can find against its culture as a farm crop, is that when once sown it is exceedingly difficult to get it out of the land, and it becomes a weed. Yet it is esteemed abroad as a forage plant, and is readily eaten by cattle either green or dry. The root is very solid and does not shrink very badly in drying, so that a rod square will furnish an abundant supply for a family for a year. T. S. G.

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[For the Country Gentleman and Cultivator.]

SOWING PLASTER.

Messrs. Editors—Permit me to say a few words in favor of sowing plaster. Judging from experience and observation, I am satisfied that there is nothing that will pay as large a profit, in proportion to the expense, as plaster. An application of 100 lbs. at an expense of less than 40 cents, will often double a crop of clover, adding from half a ton to a ton of hay per acre; and where the small kind is sown, and cut early and the second crop saved for seed, making a difference of from one to two bushels of seed per acre. Now allowing the plaster to make a difference of half a ton of hay, and one bushel of seed per acre, and calling the hay $10 a ton, the average price here, and the clover seed $5 a bushel, there is an addition to the value of the crop for one year of $10, or a profit of 2000 per cent. While at the same time the plaster would benefit the clover the next year, more than enough to pay all expenses. At this rate a ton of plaster sown on 20 acres, at a cost of less than $10, will give a profit of about $200. Or suppose the plaster only gives one-fourth of this profit, it is yet a profit of 500 per cent., which is still vastly greater than is usually realized on other farm operations. While a profit of 100 per cent. will be so small an addition to a crop, as to be often not perceptible, without weighing or measuring. This is often the case where plaster is sown on wheat or oats, or applied to corn and potatoes, as a difference in these crops that is plainly seen by the eye, would evidently make several bushels of grain, or many bushels of potatoes difference on an acre, and give a profit of several hundred per cent. For this reason, no farmer should discard the use of plaster because he does not see much benefit to his crops, while growing or when harvesting them, but only when by actual weighing or measuring he has demonstrated that it has no effect.

It is true that plaster has a different effect in different sections, and sometimes the effect varies greatly on different farms in the same section. As for instance, I have seen on the hills in Otsego Co., oats that in their deeper and darker green and ranker color, showed where the plaster had been sown so plainly, as to be perceived some distance from the field, while it is often difficult to tell the difference where plaster is sown on oats, and where left off, though it may be in the middle of the field, in this section. So too in regard to clover. I have seen fields where there was a heavy crop of clover just as far as the plaster went, while wherever it was not sown the crop was very light, while on other fields the effect was comparatively small. Though in regard to clover, the fields or farms where plaster has but little effect, may be regarded as the exception, as, I believe as a general rule, the reverse is the case.

Again, plaster has the greatest effect on land that is considerable run down, and where it has never been sown before. In proof of this, I have seen some very surprising instances. One on a farm adjoining mine, three years ago, on a field of clover the second year after seeding, a dressing of something over 100 lbs., but less than 150 lbs., made the crop a good deal more than double, I think, and I had abundant opportunities for observing both crops, three times as large as it was the year before. Nor is this a solitary instance; I have seen other instances on other farms, where the effect was nearly or quite as surprising. While I have made experiments on my own farm that showed, that on land somewhat run down where plaster had never been sown, less than 100 lbs. of plaster more than doubled the crop of clover.

Still, notwithstanding these facts, there are many farmers, in this as well as other sections, that never sow plaster. They seem to be one idea men, that think if they use barn-yard manure they have no need of plaster, or if they use it, it must be in place of manure. Said a farmer of this kind to me, "I had rather have barn-yard plaster," (meaning manure.) I replied, "I would rather have both. That they would work much better together than either would separate; that by sowing plaster on clover, I would have more hay to feed, and could make more manure; that the manure put on my grain fields would give me more corn fodder and straw, which with coarse grain would enable me to make still more manure; and that by thus adding to my manure, I could add to my crops, while by adding to my hay and grain crops enabled me to add still more to my manure. And that I thought this was not only the best way to improve my farm, but that it would lead to the most profitable course of farming on a grain farm." F.

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Fat Hogs.—Capt. Charles Parsons and Son of Conway, Mass., killed recently two full blood Chester county hogs, bred by J. S. Grennell, Esq., Greenfield, one of which was nineteen months old and weighed dressed 655 lbs., and the other twenty months old, weighed 768 lbs., dressed.

SMITHFIELD SHOW OF FAT CATTLE.

The Great Smithfield Club Show of Fat Cattle and Sheep took place last month at London. It was held in a new Hall erected for the purpose at a cost of about $150,000, by a company of which the late JONAS WEBB was President—400 feet in length, with a clear span of 125 feet and 75 feet high, with a minor hall attached 100 feet square. The cattle were ranged in the middle of the Hall, with a show of light implements, seeds and roots in four spacious galleries, and heavy machinery under the galleries. Thus the Smithfield Show has come to be almost as general as those of the Agricultural Societies, but prizes are only offered on fat stock. The amount of these prizes, including medals, cannot be far from $10,000. About $35,000 ("upwards of £7,000") were taken for admissions of visitors (149,300 in number) during the five days the show was open to the public.

As to the exhibition itself, it is characterized as "the biggest and, as far as quality is concerned, poorest show of Cattle the Smithfield Club has collected together" during its long existence. The different breeds were represented as follows:

Devons,...	33	entries.	Scotch Horned,........	4	entries.
Herefords,.............	26	do.	Scotch Polled,........	7	do.
Short-Horns, ...	44	do.	Irish, ...	1	entry.
Sussex, ...	19	do.	Welsh, ...	5	entries.
Norfolk Polled........	2	do.	Cross Breeds, ...	18	do.
Long-Horns,...... ...	2	do.	Extra Stock,...........	18	do.

Of the pure breeds, the best represented was the Devon; next in order, in point of merit, are classed the Herefords and Shorthorns—the latter being best represented in the classes for females, the former in the classes for steers and oxen. The third in merit was the Scotch Polled breed, including Angus and Galloway. The Sussex breed formed an important feature both as regards the numbers competing and individual excellence in some of the animals. Several of those awarded prizes are said to have possessed "so much of the type of the Devon as to lead to the supposition that the best specimens of both breeds are so nearly allied that they might compete in the same classes, or that superior Devon bulls have been used by the breeders of Sussex cattle." But the most remarkable animals as regards size and quality of flesh were shown in the classes for crosses and extra stock. "The influence of the Short-Horn in developing the beef producing capabilities is very conspicuous," says the North British Agriculturist, "the two most remarkable animals among the crossed breeds being a three years and four months old ox, sire Devon, dam Short-Horn, shown by Mr. Overman, Norfolk; and an ox four years and eight months old, sire Short-Horn, dam Polled Aberdeen, shown by Mr. James Stewart, Aberdeen." The latter was awarded the prize as the best animal in the male classes competing at the Birmingham Show the week before, but the Smithfield judges reversed the decision, giving the first to Mr. Overman and the second to Mr. Stewart. Mr. Overman's ox is said to have shown his Devon parentage very strongly, his "form and color being those of the Devon, with beautifully developed hind quarters, loins and back-rib."

The show of sheep was very superior, general excellence distinguishing alike the long-wooled and short-wooled sheep. The Leicesters and South-Downs fully sustained their reputation as the two leading English breeds—the latter having been better represented, if possible, than ever before. The Mark Lane Express says, "Mr. Rigden carries off the cup with the handsomest pen of South-Down wethers he has ever yet exhibited. For fine points and good frames, breed, mutton, and wool, these utterly eclipse all his previous efforts, as they do the other sheep entered against them."

Among the exhibitors of Implements we notice the name of Mr. EMERY of this city, with his Cotton Gin.

[For the Country Gentleman and Cultivator.]

WINTER FEEDING MILCH COWS.

You have an article in the COUNTRY GENTLEMAN, page 402, last vol., on "Feeding Cows in Winter," in which the writer commences by saying "that for winter feed for cows that give milk, I have never tried anything that gave better satisfaction than good bright corn fodder and carrots."

To this I can most cordially subscribe; and having had some experience in the premises, will presume to add that cows thus fed, will not only increase in the *quantity* of the milk produced, but also that the milk will be of much richer quality, giving a much larger per centage of cream; and also that the butter made therefrom will not be of that white color so peculiar to winter made, and doing away with the necessity of coloring the butter by artificial means, which is, to say the least, objectionable.

Our experience goes to show most conclusively, that milk in the autumn or early winter, is far more concentrated and rich in cream, than at any other season of the year. Indeed, the difference we conceive is vastly more than we are wont to imagine; and I would like to inquire if some of the readers of the COUNTRY GENTLEMAN be not prepared to give some actual data on this matter? It has seemed to us (without having the benefit of any positive experiments in the matter,) that the yield of cream was nearly or quite twice as great from the same amount of milk at this season of the year, than in the months of May or June. Possibly, however, our ideas are exaggerated.

With good, warm and convenient stabling, and the right kind of fodder in abundance, and also with butter at present prices, the producing of it, even in the winter season, is a matter worth looking too.

Our course for several seasons has been, to have a portion of the cows, (the oldest, or those which need to be disposed of first,) go farrow; and at the commencement of winter to begin feeding with corn fodder and roots and meal; say half a bushel cut roots and a peck of cobmeal daily, and what corn fodder they will consume without wasting; and they will ordinarily increase in flesh and also give at the same time from six to nine quarts of milk daily, and from four to six weeks before intended for the butcher, (which is ordinarily from April to June, according to market,) to dry them off gradually, and keep up or increase the amount of feed.

In pursuing this course, cows will vary, some giving little milk and gaining quite rapidly in flesh, and with others just the contrary, their food seeming to go the most to the formation of milk.

In some cases I have milked until May, when dried off, and the animal has gone to grass in high flesh, and ready for the butcher on grass alone, in some 30 to 60 days.

Salisbury, Conn., Jan., 1863. W. J. PETTEE.

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☞ Mr. ARTHUR GILMAN of Glynllyn Farm, Lee, Mass., has lately purchased from the celebrated Devon herd of E. G. FAILE, Esq., West Farms, the bull "Huron," with the following cows and heifers: 'Eveleen 3d,' 'Lady Elgin,' and 'Eveleen 4th.'

Mr. FAILE has also recently sold to Mr. JOHN F. ANDERSON, South Windham, Me., the following females: 'Kate,' 'Winona,' and 'Kate 2d,' and to C. H. NICHOLS, Superintendent Government Hospital, Washington, D. C., the bull 'Chippewa,' and the cow 'Bowley 2d.'

ILLINOIS HORTICULTURAL SOCIETY.

[Reported for the Country Gentleman.]

White Willow--Salix alba.

All prairie-dom, or at least Illinois prairie-dom, is just now at the height of a willow fever, equaling in intensity its great prototype, the multicaulis fever of memory. In fairness however, it must be confessed that the symptoms do not lead to a prognosis so unfavorable as in the former epidemic, in which a complete collapse followed. It appears that the white willow was planted to some extent in Illinois some years ago, and in a few instances *accidentally* grew into a complete fence. The owners did not discover its merits as a fence—in other words, "did not see the fence"—but some cute tree-peddlers *did* see it, and proceeded to buy up all there was to be found in the State, and then to bring it [illegible] the public in such manner as to raise the present fever.

These speculators, four or five in number, have already made, I was told, some $25,000 in the operation, to the chagrin of some good nurserymen who sold them the cuttings for a mere trifle. This willow has been variously called white willow, grey willow, long-leafed willow, and powder willow. It is used by Dupont for making powder, and is the *Salix alba* of Gray.

Jona. Huggins of Woodburn, exhibited to the meeting trees of two years' growth from the cutting, 18 feet in height, and four inches in diameter at the surface of the ground. The cutting, when planted was about the size of the finger and 10 inches long.

Mr. Minier moved that it be recommended to be grown on the prairies for timber.

Mr. Overman thinks it superior for timber. It will take the place of the locust, which has been destroyed by the borer. Thinks it will change the face of the prairies quickest of anything, by reason of its vitality, rapidity of growth, and the shape which it assumes. It will convert the sloughs into timber belts. Thinks it will make excellent shingle timber. It will be valuable for fuel and for posts.

Mr. Dunlap—An acre of it nine years old will yield 160 cords of wood. *Splits free.* His German gardener says it makes boards almost as good as pine—does not warp. Cuttings are cheap. It will make the cheapest wood we can get. Twenty years hence it will be used for lumber. It challenges any tree we have got. It is a boon to the prairies.

Mr. Overman—If you cut it when the timber is not growing, it grows again most vigorously from the roots.

Mr. Stimson of El Paso—In England it is raised extensively on the fens. Has often wondered why it has not been raised on the prairies. About wood, all the points taken are good. You can cut it as much as you please. The ease with which it can be raised from cuttings is a strong point in its favor.

Mr. Minier—English opinion is strong in favor of it. Any man who has to haul his wood five miles, ought to plant this as economy. The prairies can never be as valuable until they are belted with timber.

Mr. Huggins—When cut down to near the ground, it sends up about 30 sprouts to the height of 12 feet, as shown in one of the specimens present.

Mr. Dunlap offered the following:

Resolved, That we recommend the White Willow under discussion, to the several railroad companies, within the snow line, as valuable to plant along portions subject to snow drifts, that in its rapid growth it will form the most valuable protection for this purpose. Adopted.

Mr. Dunlap also moved to recommend it for live fences, and said he had once thought no willow would make a good live fence. The genius of the prairie he supposed had stuck this willow down and it grew into a fence. The contagion had spread from one to another, like small pox or measles. The osage orange can only be used on high land. This grows anywhere not *too* wet. For shelter belts, and a fence to cut wood or timber from, it is what we need. A fence nine years old, was not less than 40 feet high with a base of 30 feet.

Mr. Bliss—Several, after seeing the *accident*—the palissade—went to planting it all around their farms. We did not at first see it as a fence. Mr. Edwards took a tree to the exhibition of the State Society. It was recommended as the panacea for all the ills of the west. The tree peddlers got hold of it. Under the head of philanthropy, they are allowing the farmers to have a few cuttings at one cent a piece. Cattle *do* browse it, yet it will make a good fence. Will not do for small lots—it takes up too much room. Finds they bear dwarfing—can't kill them. Has seen it grow in the water and throw down a stool of roots. Thinks it will dry up the sloughs and prevent washing.

Mr. Bryant fears we will get up a multicaulis fever. It is valuable for shelter and timber—doubts it for fence. Wishes the Society would be cautious.

Mr. Emery thinks seeing what there is in the northern part of the State, will convince any one that it will make a fence.

Mr. Phoenix—As far as I have seen it, my impressions are favorable for a fence. Have seen trees 13 years old, 2 feet through and 35 feet high. Saw one row of perfect fence 20 rods long—laterals 15 feet. Has no doubt it will grow in any ground where corn will grow. Thinks it should be planted a foot apart in a single row.

Mr. Pike—Have seen trees that have been cut once in about three years, for forty years. It does not hurt them. You can plow within five feet of them and touch no roots. Thinks it valuable as post timber.

Mr. Gill has seen Mr. Smith's fence—it is a perfect fence. The trees are nine years old—planted about a foot apart—now some are five inches apart, some grown into each other. At four years old they make a pretty good fence. By cutting will make a good hedge—thinks it more valuable than Osage Orange. Saw it planted six inches to ten inches apart.

Mr. Galusha—Has a belt of it, 10 or 12 rods long. Has noticed the breaking of roots in plowing near it. Has not known any sprouts about the roots.

Mr. Bragdon offered the following resolution, which was adopted: *Resolved*, That we recommend it as suitable where shelter, timber and fencing is an object.

PREMIUM WHEAT CROPS.

Looking over the Report of the County Societies, as given in the State Agricultural Transactions for 1861, we note the following items in regard to some of the best wheat crops of that year. They show, though few in number, that the yield of this grain need not diminish if properly cultivated.

Broome Co.—Best acre, 35½ bushels.

Chenango.—Ira S. Holcomb, from 158 rods of land, harvested 37½ bushels. Sward land, with fair second growth of clover, plowed August 25, sowed August 29, two bushels seed rolled in slacked lime after soaking in vitriol water. Harvested the last of July.

Ira Crane, 326 rods of land, plowed and sowed the 10th of September, with two bushels Mediterranean wheat per acre, covered with harrow and rolled—put on 25 loads of manure before winter set in; yield 60 bushels—harvested in August and thrashed with a machine.

Lewis.—C. Wakefield, Lowville, 2847·60 per acre.

Seneca.—J. D. Coe, Romulus, 5 acres, 150 bushels.

P. Pontius, Mediterranean wheat, 27 bushels per acre.

Westchester—First premium, 41½ bushels of 64 pounds per bushel, per acre—2d premium, 35 bushels, same weight.

State Society premium to S. Curtis of Clinton, Oneida county—2 acres, 84 bushels.

It should be necessary only to grow old to get more indulgent. We shall seldom see a fault that we have not committed ourselves.

ARTIFICIAL FISH BREEDING.

[Written for the Country Gentleman, by Wilhelm Von Laer, Munster, Prussia, Secretary of the Provincial Agricultural Society of Westphalia.]

Within the last 15 years great efforts have been made by the French to stock their rivers and ponds with fish. Before this time the returns of the French fisheries had sunk very low. I will not entertain your readers to-day of the large establishments founded in France by the aid of the government for the artificial breeding and raising of fish. Interesting as those establishments are, they have been erected at heavy expense, and many mistakes have been committed. But I would turn your attention to the fact that with very little labor, and almost without expense, thousands of farmers might easily raise a large supply of the finest fish. This fact is well established by the last six years' experience.

The only species of fish, however, adapted to artificial breeding are the salmonia (trout.) Of all other kinds the eggs are too small and tender. The following extract from the letter of an extensive farmer, who has raised fish with perfect success for the last four years, gives an accurate description of the mode of breeding:

"In consequence of the low water mark in the dry summers of 1857–59 my trout fishery was almost annihilated. This circumstance caused me to try whether I might not fill my ponds and creeks again by artificial breeding of trout eggs.

"After several experiments I adopted last year the following method. From the beginning of November till the 7th of December, I caught in the creek fifty trout, which averaged seven-eighths of a pound a piece. These I put into a very small pond which can easily be fished. On December 7th, finding most of the eggs matured, I proceeded to the operation. By the great softness and the reddened color of the belly one can easily tell when the eggs are matured. The operation was carried on in the following manner: I take hold of a female fish behind the ears with one hand, and let another person hold her by the tail, then move the other hand several times gently towards the vent along the belly. The eggs then drop into a vessel filled with water to the height of a few inches. If the eggs go off easily and singly, this is a sign that they are well matured; otherwise the fish is thrown back into the pond. After the bottom of the vessel is covered by eggs from several female fish, I proceed in the same way with the male fish, until the water becomes of a milky appearance. Then with a hair brush I stir and mix all the eggs well, and let them stand so 5 or 7 minutes. Afterwards I remove the eggs carefully to the hatching place, and empty both eggs and water into the earthen vessel which has been kept in readiness. About 2,000 eggs can be hatched in one vessel. I put no sand nor gravel, nor anything else, into the hatching vessel. The latter, however, has small holes all around, through which a constant stream of water has to be conducted, so as to secure quick change of water without disturbing the eggs much. After this daily attention has to be paid to the height of the water, which must cover the eggs about 4 inches deep. The spoiled eggs, which can easily be discovered by their white color, must be removed carefully, or else they will infect the healthy ones; and whenever dirt has got into the vessel, it has to be removed through the holes by stirring the water gently with a fine hair brush.

"On January 20th the first fish hatched; I left them in the vessels until they had thrown off a small blister (or sac) hanging underneath, so they would freely move. Then I put a few of the young fish into the creek, the rest into a pond, in which there were no larger trout. The cleaning of the vessels of spoiled eggs and dead fish, has to be attended to very carefully; otherwise the whole may die.

The result was highly satisfactory. Out of 4 earthen vessels and one zinc vessel, 8,500 young fish were obtained. In the former, the loss was only 15 per cent., in the zinc vessel, 35 per cent. The reason was, that by the pressure of the water, the afore-mentioned blisters were forced through the holes of the thin zinc plate, and the fish died in consequence. In future I shall use nothing but earthen vessels, which cost here 25 cents a piece.

"The place for the hatching vessels I have arranged in the following manner: Directly from the edge of a spring I have dug a narrow channel, at such a rate of decline that the stream will travel 60 feet per minute. The channel is not wider than the vessels, which are placed ½ inch above its sole. The water then passes through the vessels four inches high."

The same man sold in the first days of January, 1862, 23,000 eggs to another breeder. The eggs were removed a few days previous to their hatching, packed in moss and carried by land transport on a wagon, a distance of 20 miles. Out of those 23,000 eggs, only 4,885 were lost, and the young fish have done admirably well, being at present 5 to 7 inches long. These had to be fed in their pond. But there is a place in Bavaria, called Fischstein, near Pottenstein, where large numbers of trout are annually raised without any feeding. In the ponds of Fischstein there grows a water plant called Gara flexibilis; on this a particular kind of snail lives, called linea percher, and on the eggs of the snail the young trout feed. We are now trying to transplant that Gara flexibilis to our northern ponds.

W. V. L.

[For the Country Gentleman and Cultivator.]

MANURING ORCHARDS.

Editors Country Gent.—Much has been said about manuring orchards; and top-dressing is the mode recommended. Now, is this warranted by experience? (I have reference to orchards that are not young.) In sandy soils, disposed to be leachy, it may have an effect, as the strength of the manure will be let down to the roots. But, otherwise, will this be the case? I think not. Soil has an affinity for manure. If applied at the top, the top soil will be enriched. But will it extend to the depth of the roots? I think no one can say it will, where the soil is a proper soil for fruit trees.

I have never applied manure to my trees, and they are forty-five years old, and are not excelled for thrift and good bearing. The fruit is of the best quality, and abundant. The soil is a deep, sandy loam.

I have seen trees manured, some plentifully, some slightly; I have seen little difference where old trees are concerned, and the soil is a general soil. Where the ground is loose, and tolerably fertile, I see little use—though some—in manure, as the roots in such soil take in a wide extent of ground, and of course according to their growth will be the growth of the tree. If they extend far, so will the branches if unmolested. As they extend, new soil is met, and new fertility constantly added.

It is this unexplored soil that affords food for the seeking mouths of the roots. Where the ground is less mobile, there must be a contraction of space, and consequently less supply of food,—for only the ground that comes in contact with the roots will benefit them. So the manured soil at the top is of no use to the roots, unless the ground is leachy and lets it down—as we before remarked—which is far from being the case with orchard soils in general, for of all soils, a tree soil is the most compact. I mean not the top, which the plow keeps mellow, but the root-pressed subsoil.

My plan of manuring an orchard (which, however, I have never practiced, only recommended,) is, to puncture the ground with a long tined fork, being as careful as possible of the roots, which will not be met with much at a few feet's distance from the tree, or say a couple of yards with old trees, and thence to the extremities of the roots. Then apply liquid manure.

F. G.

Starkville, N. Y.

FARM IMPROVEMENT.

Systematic labor—with an end in view and a careful consideration of the best means of reaching it—is sure to tell in the prosperity of those who direct and perform it. What end then, let us ask, has the farmer in view? An honest livelihood, an increase in means and comforts; success in agriculture—in a word, improvement in all that pertains to his farm. Let the farmer then carefully consider the best means of attaining this advancement, and employ his means and labor systematically therefor, and he will surely reach success. He must think as well as act—he must plan as well as perform. He must have distinct ends in view, nor be so much "the creature of circumstances," but work steadily toward a mark—the mark of excellence in each department of his business. Better soil and crops, better stock, better fences and buildings, better orchards and garden, should be his constant aim from one year's end to another. To advance in them he needs and seeks also a better knowledge of all their capacities and requirements, and how best to increase and supply them so as to get the highest reward for his thought and labor. No day is so short and stormy but it has its employment—no evening but has its hour of reflective study on some point of his progress as a farmer and a man.

It is idle to think of progress without a lively interest in and devotion to the theme. Other trades and professions expect this, and they give their whole energies to the prosecution of their business. They do this or fail—and the farmer will fail who is not equally in earnest. We should see an immediate and astonishing advancement in our agriculture were the same enterprise put into it, which is employed in commerce and manufactures. The best farms—now gardens in the desert, almost—would be the rule, instead of the exception, in less than one decade of years.

What hindrances are there in the way? There are many—some inherent in the business, others in those that direct and perform it. Let our readers look about them and see the obstacles which they must needs overcome. Means and knowledge wanting, perverse soils and inconstant seasons, injurious insects and animal diseases, changing demands and unremunerative prices—these must be considered and changed or turned aside. What needs to be done is always far in advance of what can be accomplished. O, for the wisdom to choose that which can best advance us on our ascending way.

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[For the Country Gentleman and Cultivator.]

COTTON-GROWING IN ILLINOIS.

Experiments made in rather a limited way, prove, beyond much doubt, that cotton can be profitably raised in the Middle States. In order to do this, the plants will have to be grown under forcing frames covered with glass, and then transplanted into the field after the season of frosts has passed. At first sight, this mode would appear expensive, but by the use of proper implements, cultivators and small plows, it is not so. Furrows for the plants are made by cultivators of peculiar shape, and then the earth heaped around them by another form of share (or teeth.) Some persons water the plants till they get well started, and during times of drouth, by using a long axletree cart, mounted with a cask, drawn by a horse, and when this plan has been carried out faithfully, very heavy crops have been raised, far exceeding the best raised anywhere in the cotton region, and of the best quality. The seed which has done the best is the Green Seed of Mississippi. Some trials were made with black seed, which yielded a poor return, it is said. Cotton can be raised anywhere where tobacco can be raised, only set out the plants, and be faithful in keeping down the weeds, and give plenty of water. I have little to add to what I say above; there is no mystery about the thing, except it may be in the watering. The water is really a manure. You know perhaps on the worn out lands of the South, guano is much used and gives heavy crops. I send my respects. G. B. *Princeton, Ill., Dec.* 13, 1862.

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[For the Country Gentleman and Cultivator.]

TOP-DRESSING IN AUTUMN.

It does not require a long memory to trace things far back, to note the time when it was a universal custom among farmers, if they had a few more loads of manure in autumn than they thought necessary for the corn crop of the following year, to draw these surplus loads to the meadow, and place them in small piles, to be spread the following spring. We well remember the vexations we experienced in spreading heaps, so disposed of,—for we always found more less frost to contend with, unless the spreading was delayed until time was required in other occupations.

Another difficulty we found in the way, was that of spreading it evenly over the surface. It would invariably fall from the fork or shovel where we did not wish to have it, and little accretions found in this way would often become hindrances. The crop would invariably show where the manure was,—always heaviest in rows with the spots where the heaps were in the centre, and growing lighter until we came to the centre of where the two rows met. This was not a trouble peculiar to ourselves. We have seen it developed in the fields of others. We have seen it in spring when the manure was recently spread,—and by the uneven appearance of the crop until it was taken from the land. We have seen the spreading of the manure delayed until the rains of spring were nearly past, so that it dried up by the cold winds, and have heard the very men who spread it, denounce top-dressing as a throwing away of manure.

We have since found by our experience, that the best way for us, is not only to spread in fall, but to spread from the wagon or cart, when drawing out. I choose this method for the following reasons: 1st. It is economy in time. It may, and probably does, take more time to spread a load from the cart than to drop it in heaps. Not so much more, however, as to balance the amount of time necessary to spread it. 2d. We get our manure more equally distributed over the ground by spreading from the cart. Standing on the load, the operator has a better chance to see the exact progress of the work,—to note thin spots, and avoid putting it on over thick; and instead of the bottom of a heap on the ground, to prevent an equal distribution, he has the smooth bottom of the cart, which is easily and as a matter of course scraped clean each load. 3rd. The rains of autumn and the snows of winter, prepare the manure for the food of plants, and place it within their reach, so that when spring comes on with its warmth, the object for which it was spread is daily and hourly in accomplishment.

There is another advantage in top-dressing in autumn. When one spreads ten or fifteen loads of manure on a piece of grass land, there is of course so much matter spread over the soil. In addition to the amount of fertilization that this contains, it increases the amount of earthy matter, and this matter is settled by the rains around the roots of plants or grasses, and thus affords them protection in winter, and adds to their strength in

PRICES OF WOOL FOR THE LAST TEN YEARS.

Tabular Statement of the Prices of Domestic Fleece and Pulled Wools, exhibiting the Variations of the Market during each Month for the past Ten Years.

		1853.	1854.	1855.	1856	1857.	1858.	1859.	1860.	1861.	1862.
January,	Fleece,	45@65	40@62	25@45	31@46	34@65	24@45	42@72	40@62	35@54	48@55
	Pulled,	38 55	40 52	28½ 42	30 39	32 55	20 23	34 59	32 55	28 50	43 50
February,	Fleece,	47 65	40 62	24 42	31 47	42 67	36 42	48 75	40 62	35 52	43 55
	Pulled,	38 54	40 52	21 26	34 40	33 43	25 32	35 67	35 52	28 48	37 50
March,	Fleece,	50 65	40 57	24 42	35 56	42 67	33 40	48 75	37 62	35 52	43 55
	Pulled,	42 58	40 52	21 36	30 43	33 62	18 33	35 58	30 52	28 48	37 59
April,	Fleece,	45 57½	40 57	25 45	35 55	42 67	29 42	45 67	36 60	35 48	42 56
	Pulled,	39 50	40 52	21 36	33 45	33 47	22 36	32 58	30 48	28 48	35 48
May,	Fleece,	47 65	24 57	25 44	35 58	42 60	33 42	40 60	35 60	30 42	42 52
	Pulled,	40 60	32 52	21 37	35 50	36 50	25 36	32 52	28 46	24 48	35 47
June,	Fleece,	40 60	33 53	26 43	27 49	40 65	37 42	40 60	30 58	37 41½	43 50
	Pulled,	40 52	30 42	23 37	35 42	33 43	25 36	33 52	25 47	29 38	37 48
July,	Fleece,	40 60	28 58	26 45	30 47	37 60	28 45	36 62	33 58	20 40	35 60
	Pulled,	40 52	28 52	24 37	12 41	30 45	26 37	30 59	30 47	28 30	25 53
August,	Fleece,	38 58	28 45	26 50	38 52	37 60	30 45	40 60	40 60	22 40	51 62
	Pulled,	40 52	28 42	24 37	32 42	35 55	22 38	30 50	34 48	22 37	35 55
September,	Fleece,	37 50	28 45	27 47	36 55	43 60	32 45	38 62	40 60	28 40	60 66
	Pulled,	40 46	28 42	25 40	33 47	35 50	26 40	30 50	36 50	26 40	50 53
October,	Fleece,	45 62	28 45	27 50	37 55	30 45	32 50	40 65	30 60	32 52	55 72
	Pulled,	42 48	28 42	29 59	30 52	27 40	26 40	30 52	25 55	24 50	50 62
November,	Fleece,	48 62	24 47	26 49	42 56	30 37	33 55	40 60	36 65	35 53	59 70
	Pulled,	42 52	28 45	25 39	37 46	25 32	32 52	30 50	30 55	36 50	56 65
December,	Fleece,	40 62	28 45	31 44	38 62	25 64	40 71	40 62	30 60	46 52	60 69
	Pulled,	40 52	28½ 42	31 39	34 48	20 30	33 47	32 52	25 59	28 50	55 70

summer. While we hold that manure or compost drawn out in autumn should be spread when drawn, we are in no way averse to hauling out and spreading manure in winter or early spring. We have practiced both with good success. But if drawn on in spring, it should be done early, to take advantage of spring rains. If put off until these are passed, a loss that no farmer ought to afford or suffer, will be the result.

We have a good opinion of top-dressing grass lands, even though the best fermented manures cannot be afforded. Composts are good, and in some instances we have known the effects resulting from their application to continue longer than was shown by more expensive manures, which was probably owing to the greater length of time necessary to bring all their parts into a condition to feed the plants. Another result from their application may be, that they are applied more freely; consequently a larger amount of undecomposed material is placed around and over the roots, thus furnishing *clothing* as well as food, which is an item of equal importance in our northern climate. William Bacon. *Richmond, Jan.* 1, 1863.

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PACKING APPLES FOR FUTURE USE.

The Farmer's Club of New York, at their meeting on the 9th ult., proposed the subject—" How to pack Fruit to keep." Oats in chaff and bran were mentioned as being good. The subject was then dropped, to be called up at some future time.

My experience for the past two years may be of some advantage to those who are willing to try it, if the article is within their reach.

I obtain basswood turning shavings from a Broom-Handle factory, well seasoned, and use them as oats are used in packing eggs for winter use. For spring and summer use, I do not intend to have them touch each other, or the barrel in which they are packed. I pack a few layers, then put in a loose head and press them down with my own weight, and thus continue till full; head up the cask, and leave it in the barn or open shed, until the mercury falls to 10 degrees to zero, then remove them to a dry cellar or some place protected from the extreme cold.

A flour barrel will hold about 1½ bushel put up in this way. The fruit remains clean and dry, and if any decays it appears not to effect others; neither do the turnings mould or adhere together; consequently the turnings are equally good from year to year by exposure to the air to dry out what moisture they may contain.

This last fall I packed in this way a few barrels Fall Pippins, and thus far, 6th Jan., they remain as fresh as when packed. I have seen Pound Sweets in the month of June, kept in this way, as fair and sound as when picked from the tree, and the change in the flavor was trifling.

Fabius, N. Y., 1863. S. H. CORBIN

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Corn Bread.

One quart meal, one pint of flour, one pint sweet milk, one pint sour milk, one tablespoonful sugar, one teaspoonful saleratus, and one teaspoonful salt. Bake two hours in a slow oven. Eat warm or cold. Bread made after this recipe is good to take. Mrs. M. Maria Bridges. *Johnsonville, O.*

The Springfield (Mass.) Harvest Club, at a recent meeting, were regaled with a *dodger* that was universally praised. A committee of one was appointed, with a private secretary, to wait upon the skillful hostess; they returned with the following report:

Recipe for a Single Cake.—Two table spoonfuls Indian meal, 2 table spoonfuls molasses, 1 tea spoonful saleratus, 1½ teacups buttermilk. The whole to be thickened with canal or rye flour till of the consistency of thick paste, and then baked about half an hour. Of course cream and eggs improve the mixture, if one's palate is educated for such delicacies.

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[For the Cultivator and Country Gentleman.]

To Make Leather Water-Proof.

The following recipe for making boots and shoes waterproof, is the best thing that I have ever tried. It also improves the leather, and is also the best thing for rough or sore hands, caused by binding wheat or husking corn:

Take one ounce of the balsam of Copavia and one ounce of beeswax, melt together and apply warm; rub it in with the hand. It has only to be tried to be appreciated.

C. JUDSON.

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Freezing Cider to Refine it.

Russet apples, as is well known, make the best cider, but Mr. Weld of West Roxbury, according to the Boston Cultivator, makes cider from Baldwin apples equal to Russet, by allowing it to freeze partially, and then drawing off the liquid balance. Three barrels of Baldwin cider reduced in this way to two barrels, afford good cider, and by reducing still farther, it is farther improved in strength and quality. Mr. Weld has some two-thirds reduced, kept unchanged, which is eleven years old.

[For the Country Gentleman and Cultivator.]

TOBACCO CULTURE IN CONNECTICUT.

Preparation of the Seed Bed.

We have generally prepared the seed bed in the fall, by heavy manuring, plowing in deep, and leaving the bed in a rough state till the following spring. As soon as the frost is out of the ground, spade the bed over, for the purpose of bringing the manure to the surface and thoroughly mixing with the soil, at the same time clearing out all roots of weeds and grass.

After leveling the bed we make the soil as compact as possible, either by rolling with a heavy roller or tramping with the feet. We then rake the surface lightly with a fine tooth garden rake, and sow the seed, raking lightly to cover it, and then roll or tramp it again.

The seed is so very small, being smaller than mustard seed, that it is better to mix it with dry muck or ashes before sowing, as it is more evenly distributed on the bed. We sow about as thickly as in sowing cabbage seed in the garden. The bed is treated precisely as a bed in the garden, in weeding, &c.

When the plants have three or four leaves, which should be about the middle of May, on a rainy day we sow on about 2 quarts of fine guano per square rod, being particular to sow on the guano while it rains, for if the sun comes out soon after it is sown, there is danger of burning the leaves.

Preparation of the Ground.

In preparing the ground for setting out the plants, we think it best to harrow in the manure, which should be fine compost. We use from 40 to 60 ox-cart loads per acre—(the ox-cart load is about 35 bushels.)

We use Shares' Coulter harrow for the purpose of thoroughly incorporating the manure with the soil.

The land being manured and well harrowed, we set the teeth of our marker 3½ feet apart, and mark it out one way. We then raise a ridge about 6 inches high, by turning two furrows together with a one horse plow. The ridges being made, we mark across them making the marks 2½ feet apart.

We generally have used some special manure in the hills for the purpose of giving the plant a start. We have tried Peruvian guano, about 300 to 600 pounds per acre; castor pomace, from 300 to 2,000 per acre, and the Lodi Company's poudrette 2 to 4 barrels per acre.

The guano and castor pomace it is necessary to sow on the marks, or in a furrow made for the purpose, before making the ridges (thus being directly over the guano or pomace,) as so large a quantity placed in the hills would destroy the plant.

We like the poudrette best, as we can place that in the hills without injury to the plant. We also think the poudrette gives the best tobacco.

We make the hills at each intersection of the marks, with a hoe, spatting them lightly, thus making the hills 3½ by 2½ feet.

We set the plants from the 5th to the 15th of June, (choosing, if possible, a rainy or damp day for the purpose,) though I have seen very handsome crops raised set as late as July 4th.

Insects Injurious to the Crop.

Some years we have been greatly troubled by cut worms, for which reason we have been in the habit of plowing in a green crop, either rye or clover, which feeds the worms, and consequently they do not eat the tobacco so badly.

The cut worm usually finishes its work of destruction by July 4th, up to which time, when a rainy day comes, all hands turn out and set over the plants missing.

The green, or tobacco worm proper, commences operating about July 1st. We often find the eggs (of the miller, which produce the worm) on the under side of the leaf; they are about the size of a large pin's head, and a light pea green color. The miller flies by night, and is rarely seen. I have never seen but two in the seven years we have raised tobacco. The head looks very much like an owl's; the body is grey in color, about 1½ inches long, and the wings, when spread, extend about 3 inches from tip to tip. The green worm is a constant source of annoyance from its first appearance until the tobacco is cut. We sometimes have to go over the ground every day for worms, though in some seasons once a week will suffice.

Cultivation, Harvesting, &c.

The tobacco will not grow much until it is hoed, as the ground becomes hard, and must be well stirred to give the root a chance to start. We use Nourse, Mason & Co.'s horse-hoe for cultivating between the rows. There is an advantage in setting the plants on a ridge, for they are not so apt to be covered with dirt by the horse hoe, or by a heavy shower. We generally hoe as often as we can, but rarely more than three times, unless the ground is very weedy, which should not be the case in good farming.

The cost of production varies greatly with the seasons, as when we have a dry sesaon we have to water the plants and cover them with a little cut hay, to prevent the sun from scorching them. The past season was very favorable, there having been so much damp weather about setting time that we did not cover or water a plant on 4½ acres.

After the tobacco is set the labor is about double what it is on corn. I have never made an exact calculation of the expense of raising tobacco, but for myself I can say I would rather take care of an acre of tobacco than two acres of corn. The land which will produce 2,000 pounds per acre of tobacco, will not produce over 70 bushels of shelled corn, which shows a large difference in favor of the tobacco.

About the middle of August the tobacco is in blossom. We then go over the field and break off the tops, taking off about 4 or 6 leaves with the top, according to the size of the plant.

In about a week a sucker starts at the junction of each leaf with the stalk. These must be taken off before cutting, as, if left on, it is very inconvenient to handle the tobacco.

We generally begin cutting about the 10th of September, for by that time most of it is ripe, and if it stands after it is fully ripe, it will often rust. The rust is in spots on the leaf, and injures the quality.

We commence cutting in the morning after the dew is off, and let it lay for a while to wilt, being careful not to let it lay long enough to get sunburnt. After being wilted enough to handle without breaking the leaves, it is placed in a cart or wagon and drawn to the curing house, which is generally a shed or rough building, which may be shut up close, or opened to let in air. The best buildings are about 24 or 36 feet wide, and as long as convenience may dictate—36 feet allowing of three 12 feet rails across the building. We hang from 26 to 35 plants on a rail, according to size.

The but of the stalk is placed against the rail, and the twine passed around it, the twine being crossed on top of the rail between every two plants, as they are placed on alternate sides. The rails are about 20 inches apart, allowing room for a good circulation of air, which is absolutely necessary, as without it the tobacco will sweat on the poles, and is lost.

In about six weeks or two months the tobacco is sufficiently cured to strip. After it is well cured, the first damp day we open every door and window to let in the air, for it is necessary to have it damp to keep it from breaking.

When it is taken from the poles it is placed in a pile, a double tier, the tips lapping about 6 inches or 1 foot, butts evenly laid and closely packed to prevent drying.

If not damp, it may lay so for several days without injury, but it requires close watching to prevent it from heating. We divide it after stripping, into three kinds, called wrappers, seconds and fillers. The wrappers are the choicest leaves, the seconds have many imperfect leaves, and bring about half the price of wrappers, the fillers are the poorest leaves, and bring about one-third the price of wrappers. When the leaves are stripped from the stalk about a dozen leaves are put together and a leaf coiled around the butts, which makes a hand. As a general thing the more particular we are in assorting, the better price we get. I have seen a really nice lot of tobacco sold for a small price for want of care in assorting.

I think we have averaged 15 cents a pound for wrappers, 7½ cents for seconds, and 5 cents for fillers during the seven years we have raised tobacco, and the weight would average 1,500 pounds per aere, though we have raised 2,200 pounds on one acre, and sold it for 20 cents per pound for the first quality.

In such a yield as the above there would not be over 300 pounds of the first and second qualities both together.

After stripping it is evenly packed in piles, (keeping the various qualities separate, of course,) butts out and tips lapping a very little, three or four inches perhaps. We do not case it, but sell to dealers who do. The case is made of merchantable soft pine boards, and is about 3½ feet long by 2½ wide and 2½ deep. About 400 lbs. of tobacco is put in each case, by means of a screw. In a few days after casing the sweating process commences. During some stages of this process, a person not acquainted with it, were he to examine the tobacco, would say it was worthless, being perfectly soft and apparently rotten. I have often seen the outside of the case so hot as to draw the pitch from knots in the boards.

The tobacco must go through this process before it is manufactured, to give it the necessary finish. This year we shall probably get a higher price than ever before. I have already heard of 25 cents per pound being offered for all three qualities.

I believe there is, comparatively speaking, but little tobacco raised in this State, out of Hartford county, the Connecticut river and Farmington valleys being particularly adapted to its production. JOHN C. ROBERTS.

Tarriffville, Conn., Dec., 1862.

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[For the Country Gentleman and Cultivator.]

The Way to Shingle a Leaky Roof.

EDS. OF CO. GENT. AND CULT.—Your correspondent, J. M., page 412 of Co. GENT. for Dec. 25, inquires how he may *re*shingle a roof without removing the shingles that are now on the building.

Having had some little experience in rendering leaky roofs water-tight, I trust that I can furnish the information that J. M. desires; and if the work be performed according to directions, no water will ever find its way through the roof, until the shingles are pretty well worn-out.

In the first place, if there is any moss on the roof, let it all be scraped off, and let the roof be swept off clean. Now commence at the top of the roof, and apply a heavy coat of coal tar to the old shingles. The shingles should be dry; and in cold weather, the tar must be warmed.

The most convenient way of doing this, is to have an iron kettle of live coals on the roof, and keep the tar in a tin pail that will contain about ten quarts. This pail can be kept on the fire a portion of the time, and by this means the tar can be kept thin enough to flow readily even in cold weather.

The workman will need a whitewash brush in one hand, and a dipper that will hold about one pint, in the other hand. Pour on about a pint, and spread it with the brush as quickly as possible. There is but little danger of getting the tar on too thick.

Now procure good shingles—whether the roof be flat or steep—and lay them directly on the shingles that are on the roof; *and use sixpenny nails*, instead of ordinary shingle nails, unless the roof-boards should be of hard wood. Should they be of hard wood—of sugar maple, beech, or oak,—*large* shingle nails would be preferable to sixpenny nails.

A skillful workman will be able to decide, very readily, whether sixpenny nails are necessary or not. If large shingle nails will draw the shingles down close to the old shingles, and hold them, it will not be necessary to use sixpenny nails.

How Far to Lay Shingles to the Weather.

The very best of shingles will not make a tight roof, if they are not properly laid; while the same shingles would make an excellent roof when they are laid as shingles should be laid.

The correct rule for laying shingles of any length, in order to form a roof "leak-tight," is to lay the courses less than one-third the length of the shortest shingles. For example, when shingles are eighteen inches long, many of them will not be more than seventeen inches in length. Therefore, five inches is all that the courses will bear to be laid to the weather, with the assurance of forming a good roof. The shingles must be three thicknesses over the entire roof; and if they *are not* three thicknesses—if now and then a shingle lacks a quarter or half an inch of being long enough to make three thicknesses—there will in all probability be a leaky place in the roof at such points. Moreover, when the lower courses lack half an inch, or even a fourth of an inch of extending up far enough to receive the rain from the outer-most course, in case the middle-course were removed, it would be just as well to lay them seven or eight inches to the weather, as to lay them only five or five and a half inches.

Again, many shingles are only sixteen inches long; and many that are sold for sixteen inches long, will hardly measure fifteen inches. In this case, if the roof be rather flat—say about one quarter pitch—four and a half inches is as far as they should be laid to the weather. In case a roof were quite steep, it might answer to lay the courses four and three-quarter inches to the weather.

When farmers have their buildings erected by the job, they should give their personal attention to this subject, and see that jobbers do not lay the courses a half inch too far to the weather.

There is anotheir very important consideration, which is too frequently overlooked in shingling, which is, "breaking joints." Careless workmen will often break joint within half an inch of each other. When the joints of the different courses come so close together, the roof will most certainly leak. And why should it not? There is nothing to prevent it during a heavy rain. Unless a roof is steeper than a quarter pitch, the joints should be at least one and a half inches apart.

Let a good coat of coal tar be applied to the second course of shingles—if the water which falls on it is not to be saved—and I will guarantee a good roof.

S. EDWARDS TODD.

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Susperphosphate of Lime for Tobacco.

In an article on manures for tobacco, in the Genesee Farmer, the editor expresses the opinion that superphosphate of lime may prove the very best manure for this plant at the north, and gives the following directions for applying it:

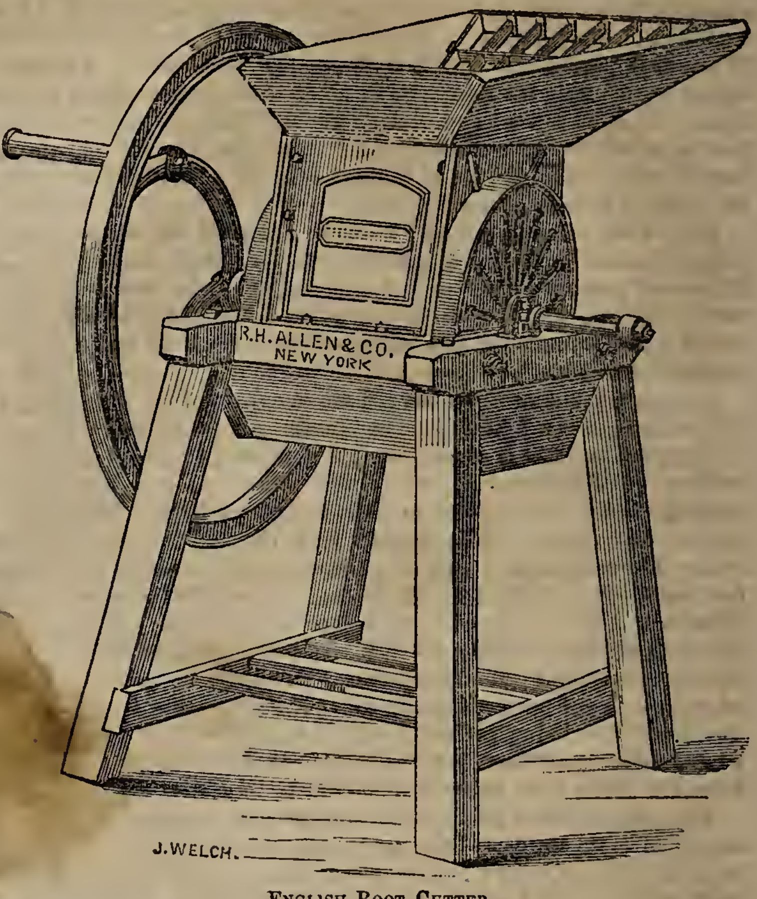
We would use it in this way: First, after preparing the bed for the seed, scatter over it broadcast from two to three pounds of superphosphate per square rod; rake it in and sow the seed. It will not hurt the seed.

The superphosphate will hasten the germination of the seed and the growth of the young plants. It will develop the fibrous roots of the plants, so that when they are pulled up there will be more soil adhering to them, and they can be transplanted with less uncertainty. In transplanting we would apply the superphosphate at the rate of 300 pounds per acre, in the hills. It will not hurt the roots of the plant if put in the hole with them, but it will be better perhaps to mix the superphosphate a little more with the soil, though the great value of superphosphate consists in giving the plants an early start, and for this reason it should be near the roots during the early growth of the plant.

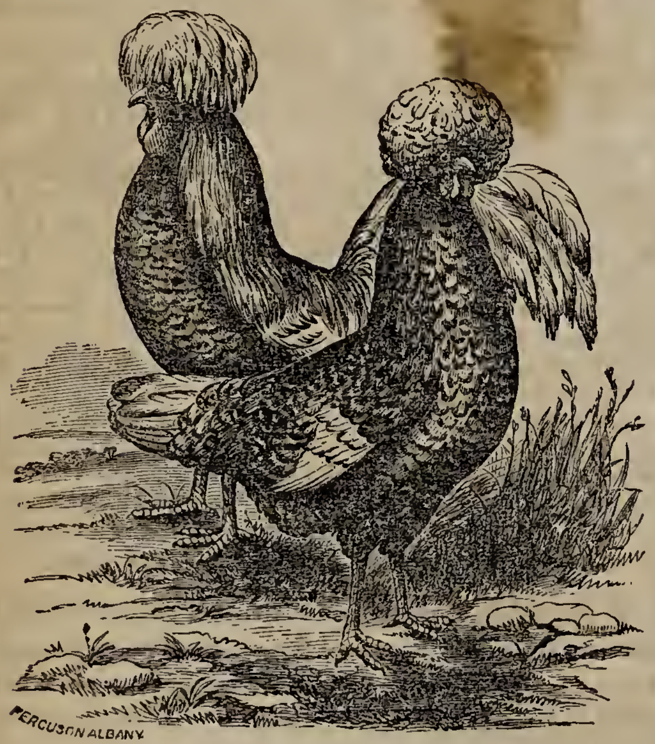
THE ENGLISH ROOT CUTTER.

At the suggestion of a number of gentlemen growing large quantities of turnips and mangolds for feeding purposes, Messrs. R. H. Allen & Co., New-York, are now making a Root Cutter similar to the most approved English machine, with some modifications or improvements of their own. We have seen one of these implements at the farm of E. G. Faile, Esq., and finding on our last visit that it had succeeded so well and satisfactorily after continued use for a long time, we were induced to apply to the Messrs. Allen to have an engraving of it prepared for the Country Gentleman. This has now been done, and the machine is very well shown in the accompanying figure.

The bars in the hopper allow dirt or stones among the roots to drop out between them, while the roots pass down against knives attached to a revolving cylinder, in such a way that when the crank is turned in one direction the roots are cut in large slices for feeding to cattle, and when turned the opposite way they are cut smaller to suit sheep or calves. In either case the shape given to the pieces is adapted to preclude any danger of choking. We are assured by those who have used this machine that, although the price ($35,) is apparently high, it is so well and durably made, and does its work so easily and thoroughly as to be considered a better investment at this cost, than it would be to pay a smaller price for an ordinary cutter.



English Root Cutter.



[For the Country Gentleman and Cultivator.]

THE GOLDEN CRESTED FOWL.

The Golden and Silver crested fowls are, the one a gold color, the other white, spangled with black; the tuft or crest as in the black Polish, should be large and compact. The more completely the color in the tuft can partake of the character of feather in the rest of the bird the better. Some persons admit white in the crest of the Golden, but we cannot help thinking the mixture a great fault. Others would like to see the feathers of the tuft laced. This, however, is very difficult of attainment. The marking of the bird is a black spangle on the golden or silver ground color. The wings are barred, and the best have lacing on the wing coverts. In Richardson's work on Poultry, these fowls, or a variety of them, are figured with immense top-knots, covering their heads and eyes, nearly blinding them; they have also black beards hanging from under their bills and muffs on their cheeks. This we consider objectionable and no addition to their beauty.

The hen of this beautiful variety which our figure illustrates, is one of the most splendid and attracting-looking birds of her species, being regularly spotted or spangled with one spot or spangle only of clear black upon each clear white or yellow feather, all over her body, from her head to the end of her tail.

They are beautiful looking fowls in the lawn or around the cottage, and like all the crested varieties, are prolific layers, and although not as large, are as good a table fowl, in quality and juiciness of flesh as the Dorking, and come quite as early to maturity; but their great excellence is in their egg-producing qualities. In fact, they are entitled to rank among the very best of egg producers; the superiorty of the Crested Hamburgh hen does not consist so much in rapid as continued laying. She may not produce as many eggs in a month as some other kind, but she will lay more months in the year than probably any other variety. The hens, if young, continue to lay nearly throughout the year; but the eggs are small, weighing about one and a half to one and three-fourths ounces each. The golden spangled hen is said to give the high average of two hundred and forty eggs yearly. As they are such abundant layers, they seldom have time to sit.

The chickens are healthy, strong, and require no unusual care; and we may add, that the full grown fowls are remarkably healthy. At from five to six months old they are fit for table use, and though small, their bones being formed in the same proportion, they yield a fair quantity of meat, which is white, tender and well flavored.

As an ornamental fowl they are equalled by few—surpassed by none. Birds of one year old have never attained their full beauty; and here, we may observe, that both sexes of all the varieties continue to improve in appearance after each month until they are three years old. C. N. Bement.

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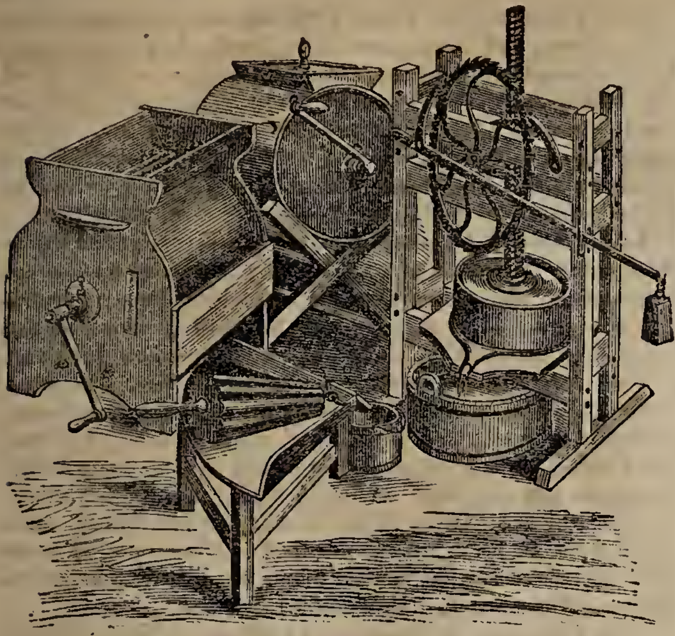
Michigan Ag. College.—T. C. Abbott, Esq., Professor of history and English Literature in this institution, has been unanimously elected its President.



[For the Country Gentleman and Cultivator.]

CHEESE FACTORIES.

In accordance with your request, I offer your inquiring correspondent, and your readers generally, some facts respecting the new and excellent institution—the Cheese Factory.

So far as the present writer is informed, the credit that belongs to the pioneer of this business at least in this great cheese district—*the cheese district par excellence* of the United States—the valley of the Upper Mohawk, belongs to Mr. Jesse Williams, near Rome. His factory is located upon a little tributary of the Mohawk, and consists of a shanty where the cheese is made, and of a long two-story curing-house. Here he has been in the habit of making up the milk of some 500 cows. Subsequently, about three years ago, a similar establishment was started on the opposite side of the river, a little nearer Rome, at a place called the Ridge Mills; and about the same time one, two or three miles from Holland Patent in this county. The past summer, two very large ones have been erected, close together, near Oriskany on the Mohawk, about half-way between Rome and Utica; in one of them, Mr. Tanner's, the milk of 900 cows has been made up; and in the other, Mr. Wilcox's, the milk of 700. Mr. Jesse Williams, already spoken of, has had charge of the former of these Oriskany factories, and his success can be made more certainly apparent to your readers, when it is mentioned that the dairy was sold in New-York at 14 cents for the bulk of the dairy, and *seventeen* cents for the large cheeses, the aggregate weight of which—the large cheeses—was 7 tons; seven of them weighing 1,000 pounds each. These were beauties, being just as perfect, when the writer saw them the last of August, as any other cheese in the house, and all were as smooth and square upon the top, as if turned in a lathe from some hard and perfect wood, and yet as elastic and yielding, under the pressure of the thumb, as a good cheese should be, for I can think of no simile.

A good many factories are building this winter—one at Whitesboro, by Deacon Watkins and his son-in-law Dr. Wight, in which Mr. Williams also has an interest—one at Stittsville, near Holland Patent—one in Litchfield, Herkimer Co., by the celebrated cheese-maker Mr. Alanson Fish, well known as a considerable writer on cheese-making.

Having said thus much about Cheese Factories, suppose I add a word about the essentials of the institution itself. The prime essentials then, are, 1st, milk, and 2nd, cold water. Your cheese factory must go where these are—all the rest can be procured anywhere.

Your factory, which will be a cheap board building, will be built upon a sidehill convenient to the producers of milk, and you will conduct into it a copious supply of spring water, which, flowing around the vats, preserves the night's milk. You will also provide yourself with a steam-boiler, adapted, with proper connections, for throwing the steam into the spaces around the several vats, and into the various necessary vessels where water can be rapidly boiled for cleansing purposes. You will also provide proper pipes for conveying away the whey into a wooden cistern where it stands long enough for the cream to rise upon it. By means of further pipes, it is conveyed away from the bottom of this vat to the animals, pigs or calves, destined to consume it.

The cream will only have to be skimmed once in the season, and is then tried and the grease sold to the soap-boiler. Of course it is understood that the grease for the daily oiling of the cheese is derived from the same source. Your cheese vats are of the ordinary structure, minus all the stoves, cocks and contrivances which distinguish the different styles of these useful articles in the ordinary dairy. Here all your heat is derived from the steam of your steam-boiler. In fitting up the pipes go to the nearest city, if it is 100 miles distant, and secure the services of a gas-fitter, who will make all the connections with iron gas-pipe, much cheaper and better than with lead pipe. Your presses are simple screw-presses like the book-binder's press. Simplicity and strength with plenty of man power, which you are supposed to have, are preferable to the more complicated and weaker, though mechanically more powerful presses in use in smaller dairies.

You will build near your factory, but by no means in the same building, for the steam and dampness, to say nothing of risk of fire, render the two processes entirely incompatible under the same roof—your cheese house, so that it can be easily lengthed at pleasure, and place at its entrance a Fairbanks scale.

Your milk you will procure in two ways. The larger dairymen in your neighborhood will associate themselves with you, drawing all their milk to you, and paying you a certain price, say one cent per pound and all the whey, for your labor, and either selling the cheese with yours, all in a lump together, which is preferable, or drawing away their share in the fall.

You will buy the milk of the smaller producers at so much per gallon. Our factories about here, have very unwisely introduced what they call "beer measure," or a measure of 282 cubic inches, which they call a gallon, instead of the legal gallon of 231 cubic inches. It is difficult to see the use of this arrangement, while it tends to produce confusion. While apothecaries are about abandoning their peculiar weights and measures, and conforming to the avoirdupois ounce and pound, it seems absurd that milk buyers should endeavor to establish a new gallon, borrowed from England, where it has long since been abolished.

The best plan for drawing the milk is to hire one or more persons to do all the drawing, receiving all the milk in the various barn-yards, and drawing it for so much per cow. The cans are much larger than milkmen's cans, and are provided with cocks at the bottom. The drawer drives up to the upper side of the factory, standing as before stated, upon a side-hill; the milk flows from the can through a pipe into a measuring can, where it is gauged and entered in a book to each once's credit; from thence it flows into the vats with all the rest, and is made into cheese. Every day's production of cheese is weighed as it enters the curing-house, and also entered in a book. You have the data now for calculating each man's share of each day's product, which of course is also entered in a permanent book, kept in a place safe from accident or fire.

Utica, Dec. 8, 1862. W.

P. S.—Suppose your Junior should book himself for a visit to our cheese factories some day next June or July. He will find much to interest himself and your readers, and the writer hereof will do himself the honors of the cicerone. [This invitation is accepted with thanks, if our correspondent will kindly apprize us when the right time comes, as regards his own leisure and the operations of the Dairymen. Eds.]

[For the Country Gentleman and Cultivator.]

Durham vs. Native Cattle---Sheep Fever, &c.

Editors of Co. Gent.—A sheep fever has been raging for some time past in the East and in the West, but has now become somewhat less violent. I suppose there are some who have not sacrificed their cattle for the purpose of filling their places with sheep at about equal prices per head, and ordinary sheep at that. Too many, however, have bought culls that were not formerly considered worth wintering, and were sold for pelting at from 50 to 75 cts. each, but which this year were bought for wintering at from $3 to $6. Such sheep are mostly bought by new beginners in sheep husbandry, and when they see how small a per centage of their number live to climb May hills and come up to shearing, and how diminutive are their fleeces, they will then think they have paid too dear for the whistle.

Keeping good sheep, good cows, good oxen, good cattle for beef, and keeping well, has always been a business that paid well and gave good profits—(sheep requiring the best keep of all)—and I doubt not that it ever will. Let me advise brother farmers to keep a proportion of all of the above named animals of the best breeds, and to keep them well. The products of these animals will ever fluctuate, and that which sells lowest one year will be sure to be in the ascendant in three years. By this mixed husbandry you will be sure, when it rains pap, to have a dish to catch it.

Butter 20 to 25 cts. per lb., cheese 10 to 12 cts., and beef 6 to 7 cts., with a prospect of advance, does not look discouraging for this kind of produce, if wool is at present worth from 55 to 65 cents. Now when this cursed war is ended, for end it must, and wool is about one-half present prices, and our new shepherds have summed up their losses, they will have to confess that they have paid too dear for the whistle. They may then have the feeling of John Randolph of Roanoke, who said that he was ever ready to go out of his way to kick a sheep. I believe the saying a true one, that the Yankee people like to be humbugged, and if others will not do it, they will do it to themselves.

Now for my experience in cattle breeding. Seven years ago I purchased one bull and four heifers of good Herd-Book Durhams, at high figures. The services of the first bull for three years, to other cows than mine, would reduce the price on the whole to the price of native cattle. My herd at the time of the purchase and since, has averaged 60 head. At the purchase of the five Durhams, the rest of my herd were good and large for natives. I have bred from blooded bulls, and bred up as fast as possible, and have now twenty full-bloods, the remainder grades, none less than half-bloods. The Durhams for disposition are very quiet, gentle, very tractable, easily broken in to the yoke and to milk, and for working oxen the grades are superior. The oxen at four to five years, readily bring $150 for work or beef. My sales of two and three years olds, for the last three years, have amounted to about 50 head—(some bought in of my bull's stock)—average of three years old, $45 per head—of two years old, $30 per head—sold to home butchers and killed in July—price of beef about $5 per hundred. One half-blood heifer two years old, killed at home September, 1861, weighed 845 lbs. on grass feed.

I have milked 12 cows for the last three years—ages from three years to eight. I find by reference to the account of butter and cheese made, the produce amounts per cow, exclusive of the milk for raising most of the calves and the slop for the hogs, to $42 per cow per year.

The case is general among the cows, that the more Durham the more flesh they carry, all with the same keep, with one exception. "Ida May," when in milk, will not carry flesh. She gave on a trial of ten days in June 1861, 36 quarts per day, and made 24¾ lbs. of butter per week, (on grass only.) Other of the bloods that carry flesh, have given from 24 to 28 quarts per day. A number of cows have been sold to the butcher when in milk without extra feed—one last week, live weight 1,800 lbs.

Now I wish the advocates and keepers of Native Cattle to come up to the mark, and show their record for working cattle, milk and beef, and see how it compares, and if the profits come about up, we will say nothing about which looks the best on one's premises.

I have seen statistics recently as to the price of keeping sheep in each State in the Union. Vermont is put the highest—at $1.30 per head per year. This price may be near the mark for three and four pound shearers, but for the six to nine pound shearers it costs double that sum, and more profit at that. H. W. Lester.

Rutland, Vt., Dec., 1862.

[For the Cultivator and Country Gentleman.]

Fence for Lands Subject to Overflow.

I have introduced and tested to my entire satisfaction for about nine years, a fence to withstand the floods to which a large creek is frequently liable, and had, previously to the adoption of this fence, caused much loss of rails from the worm fences in the bottom lands. I now lose none—seeing which, my two nearest neighbors have adopted it. The fence is made upon the principle of the rail cow racks for feeding straw or hay out of doors, in such common use in our mild climate in Kentucky. For the benefit of those who have not seen such cow racks, I would say they are made by planting a row of posts in the ground, about 18 inches deep, and projecting above ground about the same distance, and about 8 feet apart, with rails stretched from post to post and supported by them; the course of rails in their turn supporting the fence made across it in the form of an X, with other rails buried in ditches about one foot deep at one end, the other end rising in the air; the V formed above the point of support, being the receptacle for the straw or hay in the case of the rack, and for logs as weights in the case of the fence. The rails for the fence should not be more than about 6½ feet long—if 9 or 10 feet long, they make the fence rather top-heavy, and inconvenient to place the weights in. When the rails rot off at the surface of the ground, they can be used again once or twice. This fence is also a most effectual barrier against breachy stock; an active dog is very much troubled to get over even when the picket is somewhat imperfect. For pigs it must be made close at the bottom. T. B.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Hams.

I send you an effectual and excellent mode of curing hams, which I have proved by actual experience:

For 100 pounds of meat, take 4 pounds fine salt, 2 ounces saltpetre, and 4 ounces brown sugar; mix well together, and rub upon the fresh sides of the pieces until they are covered. The hams should be laid on boards, and the rubbing repeated daily for several weeks, or until the meat is ready for smoking. H. T. D. *Doylestown, Pa.*

MANAGEMENT OF HOUSE PLANTS.

It is an easy thing to *keep* plants through the winter, but not so easy to keep them *well.* Many persons keep them too hot, so that they grow spindling, and speedily become unhealthy, and infested with insects. Many keep the soil too wet for the health of the plants, but very few err in the opposite direction and do not water enough, although there are some who fail in this way. Some plants suffer for want of sunlight, others for want of fresh air. In short the causes to which the want of success in growing plants in the house is due, are numerous, and frequently difficult to overcome, but in most cases it is a want of knowledge, which is at the bottom of the difficulty.

The temperature of the room should vary according to circumstances. If the sole object is to preserve the plants through the winter, the temperature need never be above 45 deg., if possible to keep it so low ; neither should it be allowed to fall below 40 deg. If it be desired to have the plants in bloom, a warmer temperature is necessary, say 60 deg. by day, and 45 or 50 deg. at night. When plants are kept at this temperature, more frequent waterings and syringing will be needed than when they are kept cooler.

If handsome plants are desired they must not be crowded together, or they will run up *lanky* and bare of leaves, except at the top. If beauty of form constitute any part of the design of the grower, the plants must have abundance of room, and be kept as near the light as possible. In green-houses kept by professional florists, where room is scarce and flowers only are desired, the plants are crowded together as closely as they can stand, but an amateur should never have more plants than can be properly cared for, and a fine, bushy, well proportioned plant is a " thing of beauty," even without flowers.

Overpotting is a common evil. In healthy plants the roots should always be found extending to the pot, and they never need a larger pot until this is the case, which may be easily ascertained by turning the ball of earth out of the pot; if there is a net-work of roots around the ball, the plant may be shifted into a pot one size larger. If it be desirable that the plants should flower early they may be kept in quite small pots, by which the growth is checked, and they are thrown into bloom. When in such small pots, however, they cannot obtain as much nutriment as is necessary, and an occasional watering with guano water or manure water will be of service. G. B. H.

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[For the Country Gentleman and Cultivator.]

WINTERING BEES.

To winter bees successfully in our cold northern climate, is a *question* of great moment with the apiculturist. There seems to be almost as many ways recommended as there are bee-keepers. Having had several years' experience in this business in Northern Vermont, I have arrived at this conclusion, that bees should have for their welfare in winter, a *dark*, *cool*, *dry*, *still* place, where the temperature is even as possible, and about *five* degrees above the freezing point, or 35° Fah. In this temperature the bees will remain very still and quiet, and will require but little honey to what they would if kept in a warmer place.

In the first of my experience I was advised to put my bees into a tight, dark room in the house. I did so, and the consequence was, I lost many of my bees before spring ; during the warm days in the winter the bees would become very lively, and crawl out of the hives upon the floor, and if there was a ray of light, they were sure to find it, and would there perish ; if shut into the hives, they would create such a heat in trying to get out that they would melt their comb and become drowned in their own sweets. This I found was owing principally to the outside temperature being so changeable and the want of proper ventilation.

Wintering bees out of doors, as practiced by a large proportion of amateur bee-keepers, is always attended with bad results, as nearly one-half the stocks are frequently lost, and those that are not are so reduced in number, that they will not swarm the coming season, there not being bees enough to permit of it; consequently are worth but little to their owners. When bees stand out of doors, every warm day during the winter they are inclined to fly from the hive, and thousands of them get chilled and are lost, and where there was a peck of bees in the hive in the fall, by spring there may be but a handful left. In the middle or southern States bees can be allowed to stand out of doors during the winter with safety. In my more recent observations and experiments, especially in the northern States, I have found no place to winter bees in, equal to a *dark*, *dry cellar*.

If the hives are rightly arranged, and the *cellar* ventilated by opening either a door or window in the night time, occasionally, there will be no loss of bees only what die of old age, and the comb will look nearly as white as in the fall previous. Bees when kept in a cellar of this kind, will not make a discharge to soil the comb during the whole winter, and will consume but a very few pounds of honey—say about a pound to a thousand bees ; for ordinary swarms it would require from ten to twenty pounds of honey. At this low temperature the bees will remain very quiet and still, and if the cellar is kept perfectly dark, they will remain so during the whole winter, and will hardly know when spring approaches, which will not be the case when kept in a room above ground or out of doors. Bees frequently receive more injury in being confined in the hive on the approach of spring, than they will if allowed to fly out.

The time to put bees in winter quarters depends somewhat upon the severity of the weather—usually the last of November or the 1st of December ; if the weather is not too cold, they may safely remain out until near January. They generally suffer more in the latter part than in the beginning of winter.

Position of the Hives when placed in the Cellar—If straw or the old-fashioned board hive, they should be turned bottom side up, with the bottom boards removed. Their animal heat will then drive all the dampness and mold out of the hive. The only disadvantage in turning a hive bottom-side up, is, all the dead bees and particles of comb will drop among the combs in the bottom of the hive. But if there is honey enough, there will be no trouble resulting from it, as when the hive is carried out of doors, and placed right-side up, the bees will readily clear it out. *If movable-comb hives are used*, the cap, boxes, &c., should be removed, and the hive allowed to remain right-side up, with the entrance closed.

The time to remove Bees from the Cellar depends in a great measure upon the forwardness of the spring, and care should be taken that the weather is warm enough that the bees can safely fly from the hive and return again, always observing to never set but a part of the hives out the same day, and always place them as near as practicable on the same stand that they occupied the year previous, to avoid confusion and robbery.

After the bees have all made their excursion as they always do on the first day, and discharge themselves, thousands of bees might then be saved by setting them back into the cellar again for three or four weeks, and at the same time supply each hive with a substitute for the bee bread which is *Rye meal* (or common flour will answer,) as bee bread or Pollen is the first thing the bees will visit the fields for, in early spring; by supplying them with this useful article the lives of a large number of bees will be saved, which if allowed to stand out would be lost.

Burying Bees in the Ground,

Is a practice that some inexperienced bee-keepers have resorted to, and not unfrequently with fearful loss. The object aimed at seems to be the low, even temperature that our cellar affords. In a light, loose sandy soil, if the bees are properly buried, there are instances where they have lived through it. I have frequently heard it remarked by those who advocate this process that the hives were as heavy in the Spring as they were the Fall before ; should the bees all perish as I have repeatedly seen, this theory might prove true. I have yet to learn if bees can be wintered in any place without consuming some honey; it is true, if bees are kept in a damp place and should they survive the dampness, the amount of honey they would consume will be small, the weight of which would be balanced by the dampness and mould which the combs will take up, so that the hive would be nearly as heavy in the Spring as it was the Fall previous.

P. S. If the reader desires more information on this subject, fuller information will be given on application with stamps for return postage. K. P. KIDDER.

[For the Country Gentleman and Cultivator.]

The True Cause of the Potato Disease.

BY PROF. S. W. JOHNSON.

Our heading reads the *true cause*, for the reason that so many false causes have been laid at the foundation of this disease, that to say simply *the cause*, would merely imply another, no better, perhaps worse, than those already familiar to the reader and alike unsatisfactory.

But why is it that we have had so many causes for this disease? It is on account of the difficulty of investigating the matter. Strange as it may appear, the true cause is the one suggested first of all, nearly as soon as the evil showed itself. It was not however *proven* to be the cause. The earliest observers saw the cause, described it, figured it, and gave their opinion that it produced the disease, but did not demonstrate the fact. That a parasitic fungus or mould-plant was always associated with the potato rot, was the first microscopic observation made. But to the suggestion that it caused the decay of the potato, it was replied by Liebig and his school—the fungus is not the cause but the result of decay. Liebig's theory of decay and fermentation, at that time a new, plausible and incontrovertible theory, did not allow a fungus to originate a rot, but only to feed upon it. To this, the fungus theorists made but lame replies, and other " causes " were shortly discovered in appalling numbers. Smee found a sort of louse or aphis grazing among the fungi, and he decided it to be the cause. Some thought the potato had "run out," had lost its original vigor of constitution from long cultivation, and thus fell an easy prey to parasites that could do no damage to a healthy plant. Others said that the long-continued propagation from the tubers (buds) had undermined the health of the potato—like breeding in-and-in, had developed a kind of scrofula—and the plant must be reproduced from the seed, which was done without such success as would be needful to sustain that theory of the disease.

Some thought too high feeding, especially of nitrogenous manures, spoiled the potato. Others ascribed the disease to absence of salt. Others to bad, wet weather, wet and warm weather stagnating the juices. Others thought the potato rot was connected with cholera, with want of ozone, &c., &c.

All these theories were sustained by various arguments and facts, but none of them explained everything, and the wisest were bold enough not to know what the *true cause* might be. Then, as to the remedies, every day brought forth the cure, but no one cured twice.

At last the genuine cause has appeared, and what is it? Why, the fungus! But we gave that up years ago! Well, we must take it again; it is the true cause! Beyond all reasonable doubt, it is proved that the potato never rots without the fungus, and that it always rots with it. Planting the fungus on a sound potato develops the disease. Shielding the potato from the fungus prevents the disease. The rot starts where the fungus begins to grow. Each microscopic cell of the tuber becomes discolored and rotten, when, and only when the fungus issues its branches into it, or into its immediate neighborhood. Constitution, tuber, propagation, aphides, salt, manures and weather have nothing to do with the disease, except as they favor or destroy the fungus.

This is a grand result, if true. After carefully studying the evidence, it is hard to reject the doctrine. Let us examine the evidence and judge for ourselves.

As is well known, the first indication of potato disease is the blight of the leaf. This comes on so suddenly, and often so peculiarly, as to point with the utmost directness to a fungus as its cause. That a fungus is developed on and in the blighted leaf, is perfectly understood, and has been from the first. To prove that this fungus invariably precedes, and is immediately followed by the blight, is the capital achievement lately made by Dr. Speerschneider, and confirmed by Kuhn and De Bary, botanists of Germany. These investigators have not merely looked at the blighted leaves and seen the fungus there, but have watched the fungus as it rapidly sends out its branches into the still fresh and healthy portions of the leaf, and literally devours them—appropriating their juices to its own nourishment, and leaving behind a disorganized and decayed mass as the track of its desolation. It is easy to see with the unaided eye, that the fungus travels over the potato leaf *before* the blight. If the observer carefully regards one of the brown blight-spots when the disease is spreading, he will see that at its borders, and extending over upon the still green leaf, is a forest of tiny mould-plants which cover the leaf with a greenish down. This is the potato fungus, the *Peronospora infestans*, as it is now botanically designated.

The manner of growth of this plant must be known before one can understand its effects. It comes from a seed or *spore* of microscopic dimensions, a minute oval, somewhat flattened body which bears at either extremity a hair-like prolongature. These spores are produced to the number of 12—16, together, in a spore-sack at the extremity of a branch of the fungus. They are kept in a peculiar rapid motion by the vibration of the hair-like appendages; and when ripe they burst the spore-sack and are discharged. Their motion continues about half an hour, when it becomes slower, and shortly ceases. Then the spore begins to change its figure, the hairs disappear, and shortly a thread-like branch begins to protrude from its side; this rapidly increases, and if the spore is upon the potato plant, the branch, which is the seedling fungus, so to speak, penetrates the tissues of the potato,—leaf, stem or tuber, as the case may be,—and forthwith commences its parasitic life. The young fungus buds out in various directions, sending into the juices and cells of the potato its feeding branches or *mycelium;* while other, or fruit-branches, pass out into the atmosphere and reproduce spores with marvelous fecundity. The growth of the mother plant continues as long as it finds food and the requisite warmth and moisture. When the supplies existing in one place are exhausted, the plant dies in that spot; but the branches which had previously extended into the neighboring regions, continue to grow, so that the devastations of this fungus are like a fire which spreads in all directions wherever it finds fuel.

Nothing can explain the fact that a field which yesterday was green and to all appearance healthy, to-day is black with blight, except the almost magical increase of this parasite. Nothing else can enable us to comprehend how a part of a field—a streak across it—is blighted, while the rest is undamaged.

De Bary has produced the blight on healthy potato leaves by sowing the spores and causing the "fungus" to develop on them. To accomplish this it is only necessary to bring a spore in a droplet of water that is stationed on a bit of potato leaf, or to keep the spore and leaf in a sufficiently moist place for a few hours, to see with the microscope, the fungus develop and the leaf turn yellow and finally brown, with all the symptoms that are observed when the disease is taken in the natural way.

By these observations and experiments it appears proved beyond all cavil, that the *Peronospora infestans* is the cause of the leaf blight, which is the invariable precursor of the rot of the tuber.

The question next comes up: What has the fungus to do with the rot itself—with the potato disease proper?

On this point the evidence is no less conclusive. Dr. De Bary* describes the following simple experiment, which demonstrates that the tuber rot is the work of the fungus. A perfectly healthy potato is well washed and cut into halves. Each half is placed in a separate saucer, with the cut surface uppermost, and is covered with a tumbler or bell-glass, to protect it from dust and disturbance. A little pure water is placed in each saucer to keep the potato from drying away.

Upon the cut surface of one of the pieces a number of spore-sacks of Peronospora are scattered, care being taken that none shall get across to the other piece. Both are now left to themselves, protected by the bell-glasses, and under the same conditions of temperature, moisture, &c. In ten or more days, according as the weather is warmer or cooler, the experimenter may observe that the half upon which the spores were sown, begins to exhibit decided symptoms of the disease, while the other half remains perfectly healthy. The symptoms are precisely those which are always observed in the potato rot. The surface of the tuber first turns brown at the points where the spores were deposited; the discoloration extends outward from these spots in all directions, and in a few days the whole section is brown to the average depth of one-half to one line. The change proceeds from the edges of the cut surface under the skin of the tuber, until the whole mass is enveloped in a brown coating.

The disease penetrates deeper and deeper into the tuber, until the latter is completely infected. If much moisture be present, the mass dissolves to a dark foul liquid; otherwise it dries away and shrivels together, as happens in the diseased potatoes in a dry cellar.

On the section of the inocculated half, patches of mold appear as the discoloration commences. These extend rapidly, and when magnified, are seen to be the fruit-bearing branches of the fungus. They break out also through the skin after the parts underlying have become brown by the ravages of the mycelium.

With the other half of the potato, matters have gone on very differently. A discoloration is indeed noticeable at first; but it is slight, and is due to the formation of a new skin. In a short time the wound heals over, and thenceforth no further change happens, though months elapse, except such as would occur with sound uncut potatoes under the same circumstances.

The same result follows when a potato is sown with spores and buried in moist earth. It is not needful that the spores be applied to a cut surface. The fungus when it begins to grow, will penetrate the potato skin without difficulty. About a week is required for the disease to become evident.

These facts, which Speerschneider and De Bary have repeatedly verified, and which any one may observe without difficulty, illustrate the manner in which the rot in the tuber is a consequence of the blight of the leaf. The spores which fall from the mature fungus that is on the leaves, are carried by rains down into the ground, and reach the tubers, provided the latter are not too deep-lying, and thus infect them. If the soil of a field that is brown from blight be examined microscopically, there is no difficulty in finding spores among the particles of earth.

A simple experiment furnishes proof that this is the actual process. De Bary buried potatoes in sand from one-half to three inches deep, laid blighted potato tops on the surface of the sand, and sprinkled the whole moderately with water; in all cases the potatoes thus treated became diseased within eleven days. It is hardly necessary to state that to make these experiments conclusive, other potatoes were treated similiarly in all respects, save that they were not treated with fungus spores, and that they invariably remained healthy.

De Bary describes the precautions which are needful to be observed in order to find the Peronospora in *every potato that is infected with the rot.* The difficulties in the microscopic examination of the diseased potato have prevented many skilled observers from tracing the disease to its true cause; but with proper care it is easy to demonstrate beyond all question that *where this fungus is, there is potato disease, and where the disease is, there is this fungus.*

We must reserve for another article an account of the means to resist the ravages of the Peronospora infestans.

Sheffield Scientific School of Yale College, Jan., 1863.

[For the Country Gentleman and Cultivator.]

Shallow Plowing for Corn and Tobacco.

At a meeting of our Farmers' Club, recently, in a discussion upon the best methods of applying manure for the tobacco crop, it was stated by our president, that he would plow in the manure, but would not plow the land over five inches deep at the outside—rather go less than deeper; and he thought that he could get from a quarter to a third more tobacco by the shallow plowing. This, he said, was his experience. He said that this year, having occasion to be absent from the fields, his man, in trying to plow so shallow, found that the furrow slice shoved, and did not turn over properly, and set the plow to run seven inches deep, and in this way plowed one land, and that one land could be very easily pointed out during the season. There was not over two-thirds the amount of tobacco that there was on adjoining lands. This is his experience, and is entitled to some weight, as he raises from 15 to 20 acres annually.

Another gentleman, who occupies what was called a worn-out pine plain farm 30 years ago, of some 40 acres, plows his manure in from three to four inches, only plowing once, and has not plowed any deeper for the time he has owned the farm, six or seven years, and his crops continue to improve, this year having grown 5,000 pounds of tobacco, and over 300 bushels of corn—his corn averaging over 50 bushels to the acre, and tobacco some 1,800 pounds to the acre.

I wish only to state these facts, allowing the reader to draw his own conclusions, simply premising that their practice and mine differ as to depth of plowing. I should prefer to plow twice—once eight inches at least.

Whately, Mass. JAS. M. CRAFTS.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Hams.

We can testify to the efficacy of the mixture in just the proportions mentioned in No. 1, having used it for the past 15 years; but would think it labor for nothing to unpack and re-rub a lot of meat every day for weeks, thinking it quite sufficient to give it one good and effectual rubbing with the mixture in a tub, previous to placing on a board, pushing a goodly portion in hock ends, and putting on in such a manner as nearly to use up the whole mixture at first rubbing; if any remain, spread it over in a few days. D. C.

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* In his work, "Die gegenwaertig herrschende Kartoffel-Krankheit; ihre Ursache und ihre Verhuetung."

[For the Country Gentleman and Cultivator.]

My Experience in Feeding Cornstalks.

Editors Country Gentleman—There has been so much cutting and slashing at cornstalks, that it seems to me the *subject* is about ground up, whether the *stalks* are or not; but as I have had more experience in the use of cut stalks than any of the writers have told us of, I thought I would give you a little of said experience, believing as I do that it is, especially in agriculture, a thousand times more valuable than theory.

It is twelve years since I began using cornstalks as food for cattle and horses in winter. The first three winters I fed but one horse and two cows, and as I was my own boy, and did my own feeding and milking most of the time, I know how much work it was to prepare the feed and do the feeding. I do not think the time occupied in preparing the feed and feeding, was on an average more than one hour each day.

I have always prepared the feed in the following manner:—The stalks are cut from quarter to half an inch in length. Sufficient for a feed is then put into a water-tight vat or box, and packed closely by tramping with the feet, after which boiling water, sufficient to moisten the whole is thrown over them; then from four to six quarts of bran to each animal to be fed, is spread evenly over the stalks, and the lid, which must fit closely, is closed. They are left thus to soak or steam for about twelve hours, when the bran is thoroughly mixed with the stalks, and they are fed in boxes or stanchions. I had forgotten to say that each box or vat of feed is seasoned with a little salt.

For the last nine years I have fed from twenty to forty head of cattle in this way in the winter, and my cattle have been in as good condition on the 1st of January each year, as they were on the 1st of November, and I have not fed twenty tons of hay to cattle in the whole time. In fact, I never feed hay till my stalks are gone, except to calves. They ought to have hay.

In order to arrive at the value of feed, we must know how much is fed. The first three years, when feeding two cows and one horse, I had just an acre and a half of corn fodder and one load or ton of hay each year, but my land was very rich and the corn unusually good.

By preparing the feed as I have directed, you will not need more than an acre of fodder for each animal wintered, and not so much if the corn is good. I do not know the value of fodder when fed whole, but think two dollars an acre a high estimate for it. If so, then the account would stand as follows:

One acre of corn fodder	$2.00
56 bushels of bran, at seven cents,	3.92
Preparing feed and feeding 150 days, ⅓ of an hour each day,	5.00
Fuel for heating water, say	20
Amount for wintering on corn fodder,	$11.12

Wintering on hay would be as follows:

Two tons of hay, at $7 per ton,	$14.00
Feeding 150 days, at one-tenth of an hour per day	1.50
Cost of wintering one cow on hay,	$15.50
Difference in favor of wintering on fodder cut and prepared as I have suggested,	$4.38

In making the above estimates I have taken the value of things here. Everything, almost, changes its value as it changes its location. Therefore every man must be guided by the cost of articles in his own vicinity. The man who must raise hay and *haul* it (as we say here in Ohio,) ten miles to market, to get money to buy bran with, would probably find it cheaper to feed the hay.

One correspondent says he can see no economy in cutting cornstalks unless they are mouldy or damaged; then he thinks cattle may be made, or coaxed to eat them, by putting on a liberal supply of bran. I never feed any mouldy cornstalks, and if there is any man who does not know how to always have bright, green, sweet cornstalks for his cattle, I will tell him how, if he will ask me by mail how it is done.

Some say, if you cut stalks fine and mix bran with them, cattle will eat them all. This has not been my experience.

My feeding troughs for cattle, sheep, horses and hogs, are thoroughly cleaned every day; if the animals do not do it themselves, we do it for them. If they have left good nutricious food, it is taken out, and they are fed less the next time, or the health of the animal is looked after; but if we find butts of stalks or short pieces of stubble, which have been cut and gathered with clover hay, or a lock of mouldy hay, as will sometimes happen, all is cleaned out.

We usually take from eight mangers one bushel basket of butts each day, and as we feed about a bushel at a time, the loss is about one-sixteenth. Towards spring, as the stalks get drier, the proportion of loss is greater.

Massillon, Stark Co., Ohio, Dec. 20. IRA M. ALLEN.

[For the Country Gentleman and Cultivator.]

SHORTENING THE FODDERING SEASON.

John Richman of Morris Co., N. J., in the last Co. Gent. for 1862, tells us that his grass is now so good that he has foddered only ten days up to the middle of December, having snow on the ground for that portion of the time. His meadows are top-dressed with muck direct from the pit, (in autumn, we suppose,) and he finds the application very profitable. Further information on his method of employing muck would be acceptable, no doubt, to many readers.

It is a matter of some importance to the farmer to shorten as far as possible the foddering season. Graze as late and as early as we can, there is a long and tedious winter to pass through—a season of trial and discomfort both to the stock and their feeder. There is a part of the year when stock are glad to get to the barn at times, but hardly satisfied to stay there steadily. These warm, foggy winter days, bring on a hankering for grass which no fodder will fully satisfy, or at least without a good deal of daintiness on the part of the animal. If one has a suitable pasture, not easily injured by their running over it, his stock will gladly betake themselves to it in open weather even in mid-winter.

The only kind of grass which will bear winter-grazing is our June grass, or the Kentucky blue-grass, which forms a firm sward, which on a naturally dry soil will bear the tread of any animal without injury. And such old swards often furnish our best feeding ground in the thawy days, even after snow comes, especially for feeding out cornstalks. We know several instances of a large part of the winter feed of stock being furnished by grazing, but usually in this section little dependence can be placed upon this resource after the middle of January. At the present time, grasses not grazed closely during the fall are still quite green, and this is especially the case with top-dressed meadows and pastures. The advantages of top dressing are not fully appreciated—it is true, as Mr. Richman says, that no work pays larger profit than this.

To those who have all the conveniences of stables and racks for all their stock, it may seem idle to talk of any less thorough method; but as far as our observation extends, a large share of the stock of our country spend their winter in the open air, save the shelter of sheds of more or less openness or exposure. Labor and forage are too dear, and beef too cheap and plentiful, to encourage very great improvements in this respect, though we doubt not it would prove profitable on the whole.

No farmer who regards his own interest, will suffer his stock to range over newly seeded clover or timothy during the winter season. The grass crop and the soil would be irreparably injured by the treading up it would receive—it is only old sods which will bear this treatment, and these on a naturally dry soil only. And another thought. In these days of changing weather, it will not answer to trust the elements too far; our flocks and herds should be in their yards and sheds every night in winter. Not long since we were tempted by the mild pleasant evening to leave our sheep in the field, as far more comfortable than their shed would be. Before daylight we heard the snow beating our windows, and started out as soon as day to bring them in—giving them their breakfast before stopping to take our own. The cattle were shut from the yard more recently, and rain came on before morning—and we again came to the conclusion that it is safest to expect storms, and be prepared for them.

How much pleasanter, we sometimes think, would it be were winter condensed somewhat—did we have less of a mixture of weather more appropriate to spring or autumn. This state of things has its uses, no doubt, and we must seek to accommodate ourselves to it—seek to winter our stock as comfortably and economically as we can. To study their thrift and comfort is our truest interest, though many fail to see it in that light. J. H. B.

[For the Country Gentleman and Cultivator.]

Will Dairying Continue a Paying Business?

Nothing is more certain than that the laws of supply and demand regulate the commercial price of all products. The organization of soil and climate are such that no one locality can produce all important agricultural staples, but every section of country produces some particular staple that is not generally produced.

The wisdom of our Creator was never more clearly developed, than in the arrangement of the Universe, whereby those products most needed for the convenience of man are produced nearly in the ratio of the world's wants, whether it is the production of the soil or the metals and minerals garnered up in the mountain fastnesses. Primarily let us consider the extent of country in the several states adapted to dairying, and from whence came the twenty two thousand tons of cheese, and the fourteen thousand of butter shipped to Europe in 1861, three-fourths of which went to England? The dairy region of the United States, so far as it can be successfully prosecuted to become a leading staple, lies between the fortieth and forty-fifth degrees of latitude. Take it for granted that the New England States produce butter and cheese enough for their own consumption, which I think is an over-estimate, as I am confident more is sent from Northern New York to Boston and Providence, than is exported from those ports to Europe.

New-York, Western Pennsylvania, and the Western Reserve in Ohio, constitute the great exporting dairy region of the United States. This is emphatically the greatest dairy region of the world, as the valley of the Mississippi is the greatest grain region. Some butter is sent to New York from Michigan, northern Illinois and Wisconsin, known there as "western butter." The prairies states are better adapted to raising the cereals than anything else. The prairie grass is better adapted to making flesh than to secreting milk. New York is truly the Empire State in point of dairying. It possesses three important qualities necessary for successful dairying: a temperate climate, sweet pastures and pure running water. She has also by her rail roads a close proximity to all the great consuming and exporting marts. The new states of the west which are so rapidly opening up, cannot compete with us, for want of adaptation of soil and climate.

It would be an easy thing to double the amount of butter and cheese made in this State in ten years, if farmers shall see their interest in that direction. The exports to Europe have trebled in the last three years, and if peaceful relations continue with it, we may look for an increased demand there. There is more nutriment in a pound of cheese than in a pound of beef, at a less price. The English laborer makes his meal from his bread and cheese and a pot of beer. Simultaneously with the certain increase of the wealth and products of the States, will be the increase of towns and villages, which will increase the demand for dairy products, as they are an essential constituent to every meal.

With all these facts before us, need any one fear the time will come when dairying will not be a paying business? No branch of agriculture is so well calculated to enrich the soil as this. Grazing will enrich while continued tillage will impoverish.

Next in importance to quantity is the quality of our butter and cheese. Many dairymen lose a large per centage of their profits by making an inferior article. Nothing but want of skill prevents us from making as good butter as Orange county.

The last few years has shown a decided improvement in the quality made. If this improvent shall continue in the same ratio for a few years, the products of New York dairies will take a high stand in the market of the world, and challenge competition. A prime article will always command a fair price even if the price rules low, while an inferior article will not sell for a remunerating price at any time. Agricultural publications have done much to improve the quality of our dairy products, by spreading information broad-cast through the land, and to every one that wills it, the process of manufacture practiced by large numbers of the best dairymen of the State. This comparing of notes by persons of large experience has given the business an increased interest; improved the quality, and added to the profits. Hiram Walker.

Mexico, Dec. 1862.

[For the Country Gentleman and Cultivator.]

CULTIVATOR FOR ROOT CROPS.

Eds. Country Gent.—Having noticed in your paper of the 25th ult, a communication from "Old Hurricane," and an inquiry for a *machine* to *clean* and cultivate carrots and *roots*, I should like to call his attention to a small *hand* implement called "Halsted's Patent Hand Cultivator," which I have used for the past two seasons in onions, carrots, turnips and beets. It has worked to my entire satisfaction. I roll the ground lightly before sowing, and use the cultivator as soon as I can see the rows. One man and machine can hoe out an acre per day, with ease. The machine is adjustable, and cuts from 8 to 24 inches in width, and from a quarter to 2 inches deep. The inventor (who by the way is a relative of mine,) is a practical farmer, and having, like "O. H.," tried all the machines and found them wanting, got up the cultivator for his own use, and has since had it patented. It is to be hoped that the inventor will take measures to have the market supplied the coming year, as many of my friends and others wanted, but could not get them. I believe Messrs. Haines & Pell, 27 Cortland St., New York, are acting as his agents. H. M. A. *Rye, N. Y.*

[For the Country Gentleman and Cultivator.]

Dressing Skins with the Fur or Wool on.

H. S. C., in the Dec. no., of The Cultivator, wishes to know how to tan Muskrat and Mink skins with the fur on. I have never tanned Muskrat skins, for the reason I never considered them worth the trouble. With Mink skins and skins from young lambs, I have had good success by the following method:

As soon as the skin is taken from the animal, stretch it tightly on a board, flesh side out; then, before it begins to dry, I apply an equal mixture of fine salt and alum, thoroughly pulverized together, until the skin is slightly whitened by the mixture. I then take no further notice of the skins until I want them for use, (which is always a few weeks from the time of applying the mixture.) I then take them and thoroughly wash them in warm soap-suds, let them dry moderately, and just before they are fully dry, rub them soft with my hands. After rubbing they are soft and pliable as a kid glove, and will continue so. G. C. F.

Liquid Blacking.—Take fine ivory black, and mixed with some very thin lac varnish, consisting of lac dissolved in alcohol, and a good quick drying liquid blacking is obtained.

THE CULTIVATOR.

ALBANY, N. Y., FEBUARY, 1863.

☞ During the pressure of "War times," the list of Agricultural Journals at the North has been greatly reduced, and out of those which survive there are but two or three beside our own which have not greatly reduced their dimensions. Three or four years ago we published a list of the professedly Agricultural and Horticultural Journals of the country, which included

	Weeklies.	Monthlies.	Total.
In States now Loyal,	19	28	47
In the Rebel States,	4	4	8
Totals,	23	32	55

As to the papers then published at the South, there is room to doubt whether all are not now dead, and out of the Northern list, we think the following is a correct statement for the current week and month—changes take place so rapidly that it may not long remain correct:—

WEEKLY AGRICULTURAL JOURNALS.

Boston Cultivator	Quarto,	8 pp.	$2	Boston, Mass.
California Farmer,	Quarto,	8 pp.	4	San Francisco, Cal.
COUNTRY GENTLEMAN,	Quarto,	16 pp.	2	Albany, N. Y.
Farmers' Advocate,	Quarto,	16 pp.	2	Chicago, Ill.
Maine Farmer,	Folio,	4 pp.	2	Augusta, Me.
Mass. Plowman,	Folio,	4 pp.	2	Boston, Mass.
New-England Farmer,	Folio,	4 pp.	2	Boston, Mass.
Ohio Farmer,	Quarto,	8 pp.	2	Cleveland, O.
Prairie Farmer,	Quarto,	16 pp.	2	Chicago, Ill.
Rural New-Yorker,	Quarto,	8 pp.	2	Rochester, N. Y

MONTHLY AND SEMI-MONTHLY AG. AND HORT. JOURNALS.

American Agriculturist,	Quarto,	32 pp,	$1	New-York.
CULTIVATOR,	Octavo,	32 pp,	50c.	Albany, N. Y.
Farmer and Gardener,	Octavo,	32 pp.	$1	Philadelphia.
Gardener's Monthly,	Octavo,	32 pp.	1.50	Philadelphia.
Genesee Farmer,	Octavo,	32 pp.	60c.	Rochester, N. Y.
Horticulturist,	Octavo,	32 pp.	$2	New-York.
Hovey's Magazine,	Octavo,	44 pp.	2	Boston.
Illinois Farmer,	Octavo,	32 pp.	1	Springfield, Ill.
Journal State Ag. Soc'ty,	Octavo,	32 pp.	50c.	Springfield, Ill.
Michigan Farmer,	Quarto,	16 pp.	$1	Detroit.
New-England Farmer,	Octavo,	32 pp.	1	Boston.
Rural American,	Semi-Monthly,	4 pp.	$1,	Utica.
Rural Register,	Octavo,	32 pp.	$1	Baltimore.
Valley Farmer,	Octavo,	32 pp.	1	St. Louis.
Wisconsin Farmer,	Octavo,	32 pp.	1	Madison.
Working Farmer,	Quarto,	24 pp.	1	New-York.

CANADA.

Canadian Agriculturist—Octavo, 44 pp. monthly—50c. Toronto, C. W.
L'Agriculteur—Octavo, 24 pp. monthly—French—$1. Montreal, C. E.
Lower Canada Agriculturist—Octavo, 32 pp. monthly in English and French both—$1. Montreal, C. E.

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THE GOODRICH POTATOES.—We received last spring, a barrel containing six varieties of these potatoes, for planting on trial, but owing to a blunder of the railway agent they did not arrive till quite late in spring. They were planted in rows about three and a half feet apart, and in hills eighteen inches apart in the row. Earlier planting would of course have succeeded better, but these, however, gave a very favorable result as to productiveness.

The variety known as the *Central City* gave the smallest crop, or only at the rate of 146 bushels per acre. Next the *Callao* yielded at the rate of 220 bushels per acre. The *Copper Mine* about 300 per acre. The *Garnet Chili* 365. The *Pink-eye Rusty-coat* 375, and the *Cuzco*, by far the most productive of all, at the rate of over 500 bushels per acre. Fourteen average hills gave a bushel. The soil was a strong fertile loam that had been manured only in former years, and was kept well cultivated. The last named variety was remarkable for the compactness of the roots in the hill, and for the very few small tubers. The Copper Mine, on the other hand, was remarkable for spreading in the hill. The Garnet Chili and Pink-eye Rusty-coat, were rather compact growers.

Although planted late, and a wet and unfavorable season, there was very little appearance of rotting among any of them. In order to test their quality, specimens were cooked at the same time, and tasted side by side. The Callao was the best, and proved of excellent quality. The Copper Mine was but little inferior. The Garnet Chili appeared to be next in quality, and the Cuzco and Pink-eye Rusty-coat last. All were pronounced decidedly superior to the Prince Albert examined at the same time. A neighbor, however, to whom some of them were given for trial, appeared to prefer the strong and peculiar flavor of the Prince Albert to any of them.

On the whole we regard the experiment as a very successful one, proving the great value of these new seedling potatoes, and the originator has conferred a benefit on the community that can hardly be estimated by money.

◆

WOOL GROWING IN MICHIGAN.—In the December number of THE CULTIVATOR your statistical table on sheep places Ohio 1st, New-York 2d, Indiana 3d, Pennsylvania 4th, and Michigan nowhere, in the number of sheep. Very well, we are perfectly willing you should do so. Please recollect that western farmers raise straw for the grain, and sheep for the wool. Michigan this day stands No. 3 in quantity, and second only to Vermont in quality. In 1840 our entire clip was 153,375 pounds; 1850, 2,043,283; 1860, 4,062,858—a fraction behind Pennsylvania, but in 1862 Michigan had 5,008,200, and in 1863 we will leap clear over 6,000,000, depend upon it. I think from the shape you put your statement in, it was not likely to do justice to Michigan. We think you will have to admit it, and also that she has made the most rapid strides of any State in the Union. The north and south parts of this State are equally well adapted to wool-growing; I can mention a dozen counties in the south part of the State that raised 3,000,000 pounds, and few of the same counties raise less that half a million bushels of wheat, and some more than 1,000,000 bushels. The Empire State must look to her laurels in the wool line, or Michigan will take them away; with her seventy-two counties under cultivation she is competent to raise 20,000,000 pounds, and feed you all with the best winter wheat besides. WOLVERINE. *Ann Arbor, Mich.* [The statistical table referred to above was simply a statement derived from the census of 1860, to show how the stock and leading productions of New-York compared with those of several of the other largest States. The number of Sheep, according to the census of 1860, was

In Ohio	3,063,887
New-York,	2,617,855
Indiana,	2,157,375
Pennsylvania,	1,631,540
Michigan,	1,465,477
California,	1,075,718
Virginia,	1,042,946
Kentucky,	938,990
Missouri	937,445

which list comprises all the States then containing over 900,000 sheep, and in which Michigan certainly stands very well. These numbers, however, being given without any reference to the *proportionate area* of the respective States, really have very little significance, and we should not be surprised if little Vermont, with her 721,993 sheep, had actually the greatest number of all, in comparison to her surface of farming land.]

◆

ERROR.—In the communication of H. W. LESTER, published on page 58 of this number, the amount of butter (24¾ lbs.) mentioned as having been made "per week" from the milk of the cow "Ida May," is an error. This amount was actually made during a trial lasting *ten days* in June 1861, and was so intended to read.

Sorghum Molasses.—We have received a fine sample of Sorghum Molasses from E. Y. Teas of Richmond, Indiana, which he states was not equal to some which had been manufactured there. It has a clearer and purer appearance than most of the maple molasses made in this State, but still a little of the peculiar Sorghum flavor which is unpleasant to some who taste it for the first time. Our correspondent has not informed us, what we take for granted, that it was made by merely boiling and skimming the fresh expressed juice. We should be glad to receive from him the views of intelligent cultivators in that region, or, rather, their measured experiments, on the amount of profit to be derived from this manufacture, the best variety of the plant, mode of culture and manufacture, and whether it would be profitable on a large scale, say with a thousand-acre plantation, or is it best for farmers to raise their own on a limited scale?

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The Lydia Grape.—A note from our correspondent, F. R. Elliott, states that so far as he can learn from D. Kelly, on whose grounds it first grew, and from Edward Ward who first discovered its value, this is a chance seedling from some unknown sort, and not from the Isabella, as was stated some time ago in our columns.

◆

Vermont Premium Crops.—At the late annual meeting of the Vermont State Ag. Society, three first prizes were awarded to our correspondent, Mr. H. W. Lester of Rutland, as follows:

Indian Corn—101 bushels and 19 quarts per acre.
Oats—79½ bushels per acre.
Potatoes—299 bushels per acre.

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Dogs *versus* Sheep.—The number of sheep killed by dogs in the State of Ohio during the year 1861, is returned as 31,750; the number injured, but not killed, 24,254. The total injury to sheep by dogs during that year amounted to $86,434! The whole number of sheep killed by dogs for the four years, '58, '59, '60 and '61 was 167,046; injured, but not killed, 102,446. The damage amounted to $422,386, as the total for the four years!

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☞ Notice is given in our last English exchanges of a movement among the agriculturists of Great Britain to decide on some testimonial to the memory of the late Jonas Webb, in "appreciation of his high character, and of the services he has rendered to the cause of agriculture."

There is this one thing certainly which may be mentioned to the great credit of English farmers—they are never slow to mark their approval of, and gratitude for, the efforts of those who devote their lives to the service of Agriculture—whether as breeders like Mr. Webb, or as prominent farmers, or with the pen and voice, or in the laboratory and through the avenues of science. The subscriptions for such purposes are sometimes extremely liberal. A testimonial, for example, is now in course of collection to Mr. Fisher Hobbs, "for his distinguished services to the cause of British Agriculture." Mr. H. has been especially prominent of late years in the management of the Royal Ag. Society, and it is of these services we presume that this testimonial is especially intended as an acknowledgment, although he was in former years prominent as a breeder, and was always active in every sort of good work.

We should be glad if one of our foreign contemporaries would publish a list of the more prominent testimonials on the part of the Agriculturists of Great Britain, which have been presented during the last twenty or thirty years, both as matter worthy of enduring record, and as illustrative of the efforts which the last quarter of a century has there witnessed, in behalf of agriculture, and the measure of favor with which these efforts have been publicly received.

◆

Saving Fodder.—The high price of hay warns all to be saving of fodder. Some sell stock and hay, and let their farms starve, for the sake of a few dollars to keep up appearances. Some farmers continue to let their stock roam over pastures and meadows, which will destroy more grass than they would eat if kept in yard and fed regularly three times a day. We believe it pays to feed every animal a little grain every day—sheep, calves, cows and horses, as they will eat less, do better, look better, and the profits are better. At the high price of oats, (fifty cents,) corn at seventy-five cents is the cheapest feed. At present we feed our fifty store sheep one gill of peas a piece per day—they like them, and probably will pay for extra care in lambs and wool in spring. G. B. Johnson.

Onondaga Co., Dec. 26, 1862.

◆

A Word about Your Paper.—I like it greatly. Any subscriber owning a farm, or even cultivating a garden, must be a very dull reader if he does not receive treble the benefit of its cost. With the close of this year, I shall discontinue four or five publications that I have hitherto read; but owning and cultivating a patch of ground, I cannot well afford to get along without the Country Gentleman. A. N. *Meriden, Ct.*

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VERMONT STATE AG. SOCIETY.

The Annual Meeting of the Vermont State Agricultural Society was held at Bellows Falls on Friday, January 2d, 1863.

The Treasurer's Report showed a balance in the treasury of about four thousand dollars.

The following gentlemen were elected officers for the ensuing year:

President—Edwin Hammond of Middlebury.
Vice-Presidents—1. J W. Colburn of Springfield;
2. Henry Keyes of Newbury:
3. Daniel R. Potter of St. Albans;
4. Henry G. Root of Bennington.
Cor. and Rec. Sec.—Daniel Needham of Hartford.
Treasurer—J. W. Colburn of Springfield.
Directors—Frederick Holbrook; E. W. Chase; Henry S. Morse; David Hill; John Gregory: Elijah Cleaveland; Nathan Cushing; Geo. Campbell and Henry Heywood.

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Connecticut State Agricultural Society.

President—Ephraim F. Hyne of Stafford.
Vice-Presidents—Robbins Battell of Norfolk, and D. F. Gulliver of Norwich.
Recording Secretary—W. H. Stone of New-Haven.
Corresponding Secretary—T. S. Gold of Cornwall.
Treasurer—F. A. Brown of Hartford.
Chemist—Prof. S. W. Johnson of New Haven.

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Philadedphia Agricultural Society.

President—Craig Biddle.
Vice Presidents—Charles W. Harrison, Charles Kelley.
Corresponding Secretary—Sidney G. Fisher.
Recording Secretary—Alfred L. Kennedy.
Treasurer—George Blight.
Librarian—John McGowan.
Assistant Recording Secretary—Philip R. Freas.
Executive Committee—David Landreth, John Lardner, Charles W. Harrison, James A McCrea, and John McGowan.
Library Committee—David Landreth, Craig Biddle, and George Blight.

◆

Will Cattle Thrive without Water?

I think they will. I have for more than thirty years tried it, and have come to the conclusion that cattle, in fresh feed, will thrive faster without water than with. I winter my calves and colts without water, and think I have as good as my neighbors. I further think cattle fed on roots and meal will fatten better without water.

Tioga County. W. S. PEARSALL.

☞ Lewis F. Allen, Esq., of Black Rock, has issued his circular for the 6th volume of the American Short-Horn Herd Book. He says:—

"Discouraged by the ill success of sales in the last (5th) volume of the American Short-Horn Herd Book, from the failure of the usual number of subscribers to take it after publication, I concluded to suspend any further labors in that line for the present. But, the usual period—two years from the compilation of the fifth volume—having elapsed, and receiving numerous applications from the more spirited among our Short-Horn Breeders to go on with the work as before, I have concluded, if a sufficient number of pedigrees are offered, and a corresponding number of books are subscribed for to warrant the undertaking, to receive pedigrees for volume sixth, to be issued as soon as they can be received and compiled in sufficient number. * * * *

"The disruptions in our domestic affairs, by the rebellion in our Southern States, has depressed the selling value of our Short-Horns, but their intrinsic value is not at all affected. This temporary depression should be no discouragement to the breeding in their purity, and the perpetuation of their lineage. They are the noblest, most valuable race of horned cattle in existence, and will, ere long, be restored to the proud position in our agricultural productions which they maintained during our most prosperous times. As such, every Short-Horn breeder owes it to his own interest to keep the blood and lineage of his herd on an indisputable record."

Pedigrees will be received by Mr. Allen until the 1st of March, and as he does not propose in any event to print more than two-thirds his usual edition, those wishing the volume should subscribe for it at once. Any farther particulars that may be desired, will be supplied on application to him by mail at Black Rock, Erie Co., N. Y.

Tobacco-Growing in New-England.—We publish this week a very valuable practical article on the culture of Tobacco in Connecticut; and a correspondent, James Childs, Esq., at Deerfield, Mass., writes us that there is a considerable excitement in the Connecticut Valley at the present time, in regard to growing tobacco. He says—"The farmers here are selling their crops from 15 to 17 cents per pound, and realizing in some instances more than two hundred dollars per acre. A large breadth of land will be planted with the nasty weed, I think, next season. Fine crops of winter wheat follow tobacco, as the land is heavily manured, and harvested in season to sow the wheat, some farmers realizing more than 40 bushels per acre."

Letter from Michigan.—I think that there was never a more favorable time to introduce The Cultivator here than now. My health and habits are such that I seldom leave my farm at this season of the year, but will do so for a few hours on reception of your documents. I have for many years been a self-constituted agent for any Agricultural journal in the United States, and hence have ordered nearly all that ever came to this office. I have not always been a subscriber to your publications, but have with few exceptions had access to them when not a subscriber, even from the first *Genesee Farmer.* I sometimes compare old numbers of that paper with yours at present; and my circumstances have been such for many years that I have been favored with many if not most of the Agricultural journals (*or so called*) of the United States, and to my mind yours has been *the best of the whole.* Most of your correspondents have known what instruction the practical farmer needed, and have also known what they were writing about. Over forty years I have lived in this place, and have been trying to get a living by cultivating a small farm, and in order to do so have availed myself of all the helps within my reach; and to no one am I as much indebted for the progress made, as to the Senior Editor of the Co. Gent., and I herewith return him my hearty thanks. L. C.

Oakland Co., Mich.

Acreable Products of Steuben Co., N. Y.—It appears from the Agricultural Survey of Steuben County, published in our State Society's last vol. of Transactions, that in 1861, some of its products were as follows:—Wheat, 37,092 acres; average a fraction over 10 bushels per acre—Barley, 9,861 acres; 13 bushels per acre—Buckwheat 5,425; 26 bushels per acre—Indian Corn, 13,993 acres; 26¾ bushels per acre—Potatoes, 4,493 acres; 74 bushels per acre—Peas, 3,130 acres; a little over 11 bushels per acre—Beans, 979 acres; 12¼ bushels per acre.

Premium Crops of Clover Seed.—The Ontario county premium crops of clover seed, as reported in the last "Transactions," were over four bushels per acre—in the highest, four bushels and eighteen pounds. Both were seeded on winter grain, and the first crop of hay cut the last of June, the second saved for seed. Some farmers think a greater profit can be made from this crop than any other, but it is found very exhausting to the soil.

☞ Dr. Wm. D. Brinckle, well known in Horticultural circles for many years past, died at his residence at Groveville, N. J., Dec. 16th. He had long devoted a large portion of his time to the introduction and propagation of new fruits, having originated several varieties which rank among standard sorts. A series of resolutions adopted at a late meeting of the Pennsylvania Horticultural Society, include the following:

Resolved—That this society deeply mourn the decease of their late fellow member, William D. Brinckle, M. D., whose connection with it during many years has reflected honor upon the society.

Resolved—That although ill-health has for some time deprived us of the benefit of his knowledge and experience, yet we regard him as the Nestor of pomologists, and were sure of his sympathy in all that pertained to his favorite pursuits.

Christmas Beef and Mutton.—Messrs. Gazely and Griffin of Duchess county, exhibited at Poughkeepsie a pair of five-year old steers which weighed 5,400 lbs. Two other pairs of steers were present—one from Stephen Angel, weighing 4,825 lbs.—the other pair from D. Lands & Son, weighing 4,845 lbs. A pair of cattle, also on their way to the New-York market, belonging to Egbert Peckham, weighed 5,510 lbs.

Three Canada Sheep were sold at the Albany market the week before Christmas, for $75, or $25 per head. They are said to weigh 800 lbs., and are expected to dress an average of 200 lbs. The finest bunch of sheep in the same market, consisted of thirty full-blooded Leicester wethers, raised and fed by E. W. Cady of Dryden, Tompkins county. They averaged 210 lbs., and were sold for the New-York market, at seven cents per lb. A Poughkeepsie paper states that E. Griffin of Clinton, had at Poughkeepsie four South-Downs, which weighed 200 lbs. each, and which he sold for $25 each, and that Mr. Gazely of the same place, had six Cotswold sheep, weighing 300 lbs. each, which he sold at $35 per head.

The Worcester Southeast Society (Mass.) held their annual meeting for choice of officers, when Albert Wood, Esq., of Hopkinton, was re-elected President, and Dr. J. G. Metcalf of Mendon, Secretary.

Inquiries and Answers.

WINTER MANURING.—Will you advise me through The Cultivator, how it will do to spread manure on to ground intended for planting corn next srping, this winter, or whether it is better to pile it up in a heap? E. P. *Otsego Co.* [Spread the manure this winter as soon as practicable, and let it lie till spring. If the land is sod, plow it at a moderate depth a short time before planting—or if not grass, harrow it fine as soon as the soil is dry, and then invert it with a plow, not deep. This is far better than spreading the manure in spring]

DRAINING SWAMPS.—On page 108 of The Cultivator, for the year 1859, there is a chapter on reclaiming swamps, in which reference is made, as an example of surface draining of swamps, to the statements of C. L. Kiersted of Ulster county, " given in the March no. of the Journal of our State Society." Can you furnish me with the copy spoken of, or send me C. L. Kiersted's Post-Office address? I have all of the late numbers of The Cultivator, and would not part with them, as I have a constant source of information on agricultural knowledge. G. *Kittery, Me.* [Mr. Kiersted's address is Kingston, Ulster Co., N. Y.]

POTATO PLANTER.—Can you tell me if there is any good machine in use for planting potatoes? I have seen notices of such a machine in the papers, but do not know whether it has proved successful. A. S. Bell. [Perhaps some of our readers may know of such a machine. In the mean time we would state that a gentleman near this city got up a machine for this purpose last year, with which he has been experimenting, and which he hopes to have ready for use the coming spring. The last no. of the Maine Farmer states that a young man by the name of True of Garland in that state, has invented and put into successfal practice a machine for planting potatoes. It opens the furrow in the plowed land, cuts the potato, drops it and covers it nicely. Thus, a man and an old horse can plant as many potatoes in a day as five men can in the common way.]

GROWING CEDAR TREES.—I desire to know the best method of starting young cedar trees for a grove. Will it be necessary to go to the swamps to get them, or can I start them on the farm? J. L. B. *Madison Co., N. Y.* [The red cedar may be raised readily from seed, washing the pulp from the berries, which will grow in a year after planting, and sometimes the first year. We infer however that our correspondent alludes to the *white* or swamp cedar. This is difficult to raise from seed except by skillful nurserymen, of whom the young trees may be purchased; or they may be dug up from the swamp. The borders of the swamp and the more open or exposed places are best for procuring the young trees. To prevent danger of dying from removal take up a ball or cake of earth with the roots, large enough for the tree to stand on it without support, in which case it will be sure to live.]

PENNSYLVANIA FARM SCHOOL.—Please inform me through The Cultivator, in what town the Pennsylvania Farm School is situated? E. F. J. *Bristol, Conn.* [We do not know; it is in Center Co., and is the name of the Post Office itself.]

WEN OR ULCER ON CATTLE.—One of my oxen has a bunch on his neck just back of his jaws, and nearly under. There was a small bunch there when I got him, some two years ago, and it had a scar on it. About two months ago it commenced to grow, and now is nearly as large as a tea-saucer, and a little thicker. It has broken and is running now, but does not go down. Some of my neighbors call it a wen Can you or any of your subscribers tell what it is, and what to do for it? E. L. T. *Gratiot Co., Mich.* [We are unable to give the proper mode of treatment, from any practical knowledge; but if the ulcer is foul, we would suggest the use of a solution of chloride of lime of moderate strength, for washing it, and when it has become thoroughly cleansed, wash it repeatedly with a saturated solution of chlorate of potash, to promote a tendency to heal.]

SHAVINGS FOR ICE HOUSES.—I wish to inquire whether filling in of an ice-house one foot thick with shavings from a planing mill, will keep ice, the house above ground; and also whether shavings would be good to pack the ice in and cover it. Jas. Wells. *North Easton.* [If the shavings are very fine, and are pressed in compactly, a foot might answer for the purpose, but a foot and a half would be better. Saw-dust is the best material of all; then fine chaff; then finely chopped straw; while long straw and common shavings are much less efficient non-conductors, whether for the sides or the top of the ice]

" HEREFORD."—What is the right pronunciation of the name of the breed of cattle written Hereford? I hear it pronounced so many different ways that I am at a loss to know which is right. E. L H. [*Hereford* is a word of three syllables, with the accent on the first, with the *e* in the first syllable short like *e* in herring. The vowels in the two last syllables are indistinct.]

RED BEANS.—Will some of your readers please inform me where I can procure a bushel of *red* beans for seed? I notice that they sell in the New York market at four dollars per bushel. I have never raised any, and desire to learn how they can be grown, the kind of soil, &c., I have raised from fifteen to twenty acres of the white medium each year for several years past, but if I can grow the red bean as cheap as the white bean, I wish to give them a trial.

Newfane. N. Y. C. S. McCOLLOM.

DISEASED COW.—I have a cow that calved last May, and has not since, to my knowledge, shown any disposition for the male, but has had turns periodically, of giving *bloody milk*, for a few days at a time, and as she is young—this being her first calf—I am anxious to obtain some information that will be of service to me in curing the cow. I ought perhaps to say that the cow is in good order, and is eating daily one peck of turnips, two quarts of corn meal, and what hay she wants, and is kept with my other cows and young cattle. Will some of your correspondents be kind enough to give me some information upon this subject.

Whately, Mass. JAS. M. CROFTS.

CLOVER SEED.—Will you and some practical farmer, give your views as to the best kinds of clover seed to sow for pasture and for enriching the land? J. A. M. [The common or medium red clover, is generally regarded as the best for pasturage, growing shorter, more dense, and, when pastured, continuing to grow through the season. The large clover is thought to afford a heavier amount of herbage for plowing under, but its superiority has been doubtless over estimated by some.]

SEEDING ORCHARDS.—What kind of seed shall I use to seed down an old orchard. J. A. M. *Newfane, N. Y.* [Orchard grass will grow better in the shade of trees than any other, and if kept pastured short, as it always should be in an orchard, will afford comparatively good feed. Shaded pasturage is always inferior to such as grows in the sun, and is disliked by animals; it is chiefly valuable very early in the season. Orchard grass being an early sort, comes in well for this purpose.]

CULTIVATORS.—I would like to inquire if the "Yankee Farmer" is the best implement of the kind in use, or if there can be one obtained at less price that would answer the same purpose as S. W. Hall's? J. J. [The "Yankee Farmer" possesses some advantages over any other implement for cultivating, especially in the closeness and accuracy with which it works to the rows. Its only faults are its complexity and cost. Alden's Cultivator is probably next to it in value for working among root crops, and is a comparatively cheap and simple implement.]

CANADA THISTLES.—Would you be so kind as to inform a subscriber the best means to get rid of a troublesome weed, known in this section of the country as the "Canada thistle?" I have a piece of land on my farm of about one-half an acre, upon which has grown this weed for about ten years. I have tried all the remedies that have been presented to me without avail. P. W. *Bucks Co., Pa.* [To destroy the Canada thistle, all that is necessary is to smother it out of existence, or not to allow the plants to breathe through their leaves, keeping them constantly or daily cut off at or a little below the surface of the earth; or cover them with any substance through which they cannot penetrate or grow; these remedies, continued for one season, will accomplish the purpose, but cutting them off daily may be too laborious, or covering an extended surface impracticable. The best and cheapest way therefore is to plow the ground repeatedly during the season, so as to keep every plant at all times under. If the soil is rather heavy and compact, five good, deep and thorough plowings, each once a month, will perfectly extirpate them. If the soil is light, it may be necesssary to repeat the plowing oftener. We speak from ample experience on this matter. Half-way work will be of no avail.]

CULTIVATOR POSTAGE.—I should be pleased to know what the postage on THE CULTIVATOR is—we pay 18 cents, and are willing, *if it is right?* T. A. *Monroeville, Ohio.* [Your postmaster charges you just *three times the legal postage*. The law is very clear, and shows that the postage of THE CULTIVATOR to any point in the United States is *only six cents a year, paid quarterly or otherwise in advance*.]

DRILL.—EDITORS OF CULTIVATOR: Please to inform me where I can buy a Drill—one that will drill in garden peas evenly and well; also the price. I wish to sow half an acre or more next spring, and it will be too tedious a process to put them in by hand. L. COBURN. *E. Constable, N Y., Jan.* 6. [Address the inquiry to either of the Agricultural warehouses advertising in our columns, of whom you can obtain good drills for different purposes and at different prices. They will furnish all the information desired, with the drills at fair prices into the bargain.]

POULTRY.—Please inform me if there is to be either in this State or any other, a *Poultry Show* this winter, if so, when and where? [We do not know of any.] Can you refer me to any one in Albany who breeds the *pure* blood white-faced Spanish fowls? C. E. C. [We cannot; our Advertising columns are open to any one who can.]

DRAINING HEAVY CLAY.—There is a farm in this neighborhood, about two-thirds of the upland of which is very stiff and heavy. There appears to be about 6 inches of soil, and under that a green or blue tenacious and almost impenetrable clay, which I believe overlays the green sand marl. The soil is strong, and when the season suits it grows large crops, but a little drouth makes it as hard as a brick, and a long spell of wet weather a quagmire. It is in the market, and a friend of mine, and a member of the Club, would like to know your opinion as to whether underdraining would cure it or not. G. H. *Medford, N. J.* [The farm obviously needs thorough and regular underdraining. The hard subsoil, when it becomes thus permanently dry, will probably be traversed by innumerable little fissures, and its tenacity disappear, but if not, a subsoil plow will make thorough work of it. Thorough draining, or with the ditches near together, will be best; and if this cannot all be done in one year, do thoroughly only a portion.]

SORGHUM MOLASSES.—Last fall I made a barrel of sorghum molasses, very clear and pleasant tasted. In a few weeks there began to form lumps in it of about the consistency of jelly. They continued to form until nearly half of it is composed of these lumps. The juice was crushed from the stalks in an iron mill, and evaporated in pans with wooden sides and sheet-iron bottom, using half a teaspoonful of soda to every gallon of juice. I have manufactured Sorghum molasses for several seasons, but never had any like this before. I would be glad if some of your readers would explain the cause of it through your columns, if it is understood. B. F. COLE. *Flowerville.*

CURING TOBACCO.—I would be glad to inquire through your valuable paper whether tobacco requires to be moistened any more when put to press than what it absorbs from the atmosphere, which makes it fit for stripping, in moist weather—in other words, whether it may not be packed too dry for producing the sweating process, said to be so necessary?
Illinois. R. M.

MADDER.—Having had in my possession for some time a lot of madder, which we have as yet not cultivated to profit, but wishing so to do, (if it can be done here,) I wish to inquire whether madder can be cultivated here to profit, the proper mode of planting, tillage, and harvesting it; also, how to prepare it for market, what it is worth per pound, how much per acre is a fair yield, how long from planting time until fit to dig. D. C. *Kimbleville, Chester Co., Pa.*

COSTIVENESS IN HORSES.—Can any of your correspondents inform me of any way of relieving very severe costiveness in a horse? Shorts are of no avail. How about carrots? F. G. [The treatment must depend on the cause—probably a moderate portion of green food, such as carrots, would be useful in many instances. If the digestion is deranged, successive doses of pulverized charcoal would probably be beneficial. Take fresh charcoal from the fire, pulverize it fine, mix half a teacupful with a pint of water, and give doses every five or six hours, until the difficulty is relieved. Some of our correspondents may perhaps furnish a better remedy.]

GRINDING FEED.—It is often inconvenient to "mix mess" for horses, and in consequence many persons, through the winter and spring, feed with corn in the ear. Would not dry meal be preferable, and is it greatly inferior to "cut mess." S. *New Jersey.* [Grinding grain for domestic animals is much better than feeding it unground, or in the ear. It is more important for the small animals, such as swine, than for horses. Moistening or cooking the meal is not of great importance.]

FARM TEAMS.—Which are considered the most profitable for general farm work and teaming, horses, mules or oxen? J. J. [Horses are generally the most profitable; where there is much heavy work a yoke or two of oxen are valuable. Mules are exceedingly hardy, and very long-lived, and will do a great amount of labor, but we are unable to speak from practical knowledge of their general value.]

SPRING WHEAT.—What is Spring Wheat? Is it a distinct species of grain from winter wheat, and if so where has it come from? If not, how it was produced from winter wheat? I have applied in many quarters for answers to these questions without success. A reply will oblige yours truly. INQUIRER. *Philadelphia, Dec.* 31, 1862. [Spring wheat is a mere variety of winter wheat. Some of the oldest botanists made them distinct species; but winter wheat sown early in spring, has ripened grain the same year, and other changes are produced in a similar way. There are many varieties of wheat, of more or less permanence—produced by a difference of climate, or by successive sowings of selected grains, with some continued peculiarity observed. Even the compound heads of the Egyptian wheat produce single spikes after a while.]

A CHEAP MILL.—I would like to know from you or your correspondents whether a *grist mill complete*—i. e., the "smutter, fan, grinder, hopper, bolt and drawers"—that would grind and *bolt better* than ordinary mills, India wheat and buckwheat, 4 bushels per hour, with any kind of two-horse power, price $50, would be a desirable concern for agriculturists anywhere? The mill or *grinder, never* requiring sharpening, a new one not costing $3, and lasting to grind

2,000 bushels—all other parts lasting a lifetime. If such a thing is called for, I think I know the man that will answer the call at short notice. INQUIRER *Vermont*. [We think such a mill would be valuable to farmers, but needs long trial to test its permanent value. We would like to report any carefully conducted experiments with such a mill, but manufacturers or venders can properly recommend it in our advertising columns.]

FOREIGN POSTAGE.—Will you please tell me what it will cost to send THE CULTIVATOR or COUNTRY GENTLEMAN to England, direct from your office. W. M. *Oak Creek, Wis*. [The regular subscription price, with 2 cents a number added to prepay postage—or $3 04 for the Co. GENT., and 74 cents for THE CULTIVATOR one year.]

STRENGTH REQUIRED FOR PLOWING.—I was in New-Hampshire last fall. I noticed that it took four oxen or their equivalent, to break up a stiff sod. The soil is granite. How is it in Western New-York on the same parallel, say 43°, where there is a limestone soil? At this place, at 40° and 12', we have lime stone and sand stone soils, and with us a pair of horses will break up any sod ground of ever so long standing. Is it the climate or soil which makes the difference? I should like your views on the subject. N. P. A. *Ohio Co., Va.* [A heavy stiff soil requires a stronger team than a light or sandy one. Climate or latitude has nothing to do with it, except so far as a severe winter may more effectually loosen the earth, or a wet or dry one render it soft or hard. The plows in Maine and New-Hampshire are generally larger than in New-York, hence a stronger team is required, and deeper and wider plowing done. The most profitable team for sod plowing, all things considered, is the three-horse team—stout animals for heavy soils, and medium ones for light soils. Two horses will do only where the soil is quite light, or the plowing rather shallow.]

FISH AND FISH PONDS.—I take the liberty of asking a few questions for practical information in the propagation and management of trout in artificial ponds - 1st. What is necessary to construct a good artificial pond for trout on a small scale? How constructed that the spawn may best be preserved from destruction by other fish of the same species? What they are usually fed with? Whether absolutely necessary for their *existence* that they should be fed in the winter? Whether brook trout (or any other N. E. fish) spawn more than once in the year, and what season? Also whether there is any practical work published upon the subject of propagation and management of fish generally, especially the trout? C. C. T. *Hopkinton, N. H.* [An essential requisite for successful fish ponds is to have a stream running constantly to prevent the water becoming stagnant, the size of the stream to correspond with the extent of the pond. It is hard to prevent the larger fish preying on the smaller ones. The management of fish is a very interesting pursuit, but we are not aware that it has ever proved profitable. C. M. Saxton, New-York, publishes Garlick's Treatise on the artificial propagation of fish and the construction of ponds, and sends it by mail for $1.25. In the Co. GENT. of June 19, 1862, you will find a full description of an artificial fish-pond, and in the same paper for Jan. 1, 1863, a very valuable article on the artificial breeding of fish.]

OIL CAKE.—As I suppose I have fed more oil cake to cattle and sheep than any other farmer in the State, I will endeavor to answer the inquiry of D. McC., (see Co. GENT. for Dec. 25, page 412) I cannot say how much better it is than corn, but one thing I do know that a bushel of oil cake (50 lbs.) is better than a bushel of corn, say 60 lbs. I always fed it in the meal dry, and generally clear of any mixture, yet I don't know but it is more preferable to mix with corn meal or buckwheat meal for cattle. That will depend on the price of each, but oil cake meal requires nothing added to it to improve it, for either sheep or cattle, and no feed will raise more wool. That is my opinion.

Near Geneva, 24th Dec., 1862. JOHN JOHNSTON.

ONE HUNDRED THOUSAND BARRELS
OF THE
LODI MANUFACTURING COMPANY'S
POUDRETTE,
FOR SALE BY
JAMES T. FOSTER,
66 Courtlandt-St., New-York.

In lots to suit purchasers. This Company have the largest capital and factory of the kind in the World, and possess the best facilities for manufacturing the night soil of New-York city, for which they have the exclusive contract, into a dry inodorous but powerful manure—superior to any other fertilizer in market, taking cost and yield into consideration. Price $1.60 per barrel, free from cartage, for any quantity over 7 barrels—or only $16 per ton.

☞ Beware of spurious imitations, put up in barrels to resemble this Company's brand.

Attention is called to the following letter from a farmer:

FARMINGTON, N. H., October 9, 1862.

JAMES R. DEY, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight-house; opened it; came to me with eyes wide open, and said: "YOU HAVE GOT CHEATED; THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then ommitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no preceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides DIRT. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me $4.20. He informed me afterwards that he took it into his field all alone and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them $5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it will not kill the seed.

And again, it is not so expensive. My method is TO PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

Respectfully yours,
GEO. L. WHITEHOUSE.

The Company's pamphlet, containing directions for use and other valuable information, will be sent free to any one applying for the same.

Address J. T. FOSTER.
Jan. 29—w13m3t. Care of the Lodi Manufacturing Co.

ALDERNEY COWS, HEIFERS AND BULLS,

For sale by ROBERT L. MAITLAND,
July 31—w&m1yr. New-York City.

PREMIUM CHESTER COUNTY WHITES.—THOMAS WOOD continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. Address PENNINGTONVILLE, Chester Co., Pa.
April 3—w1y—June 1—m1y.

SHORT-HORNS AND ALDERNEYS FOR SALE.

The subscriber offers for sale, at reasonable prices, a number of Short-Horn cows, heifers and bulls, of Bates' blood, and in prime condition, and also a few pure and high grade Alderney cows, heifers and bulls of the best blood in the country, delivered at the cars in Albany free of charge. Address Dr. HERMAN WENDELL,
Feb. 13—w&mtf. Hazelwood, Albany, N. Y.

FARM TO LET ON SHARES.—The subscriber wishes to let on shares, to an experienced and successful farmer, from the 1st April, some 500 acres of the Jay farm, Bedford, Westchester Co., N. Y., near Katonah Station, on the Harlem Railroad, and two hours from New-York.

The farm is now chiefly devoted to sheep and milk, and has a milk contract with the New-York Hotel. The tenant will be prepared to buy for cash an undivided half of the stock on hand, including about 60 cows and 400 sheep, at a price to be fixed by disinterested appraisers. The farm house is large and comfortable, and the farm buildings ample and convenient. Parties applying will please state fully their qualifications and reference. Those wishing to view the farm, may ask on the premises for Samuel Gourlay or Joseph Jones.

JOHN JAY, 194 Fifth Avenue,
Jan. 18—w4tm1t. New-York City.

WANTED.—A Practical Farmer, one who has had experience in the cultivation of vegetables, and is capable of taking charge of a farm. An Englishman, Scotchman or German prefered. Address. F. A. STOW, Troy, N. Y.
Dec. 25—w4tm2t.

BERKSHIRE PIGS—Of strictly pure breed, for sale by WM. J. PETTEE, Lakeville, Conn.
Dec. 18—weow8tm1t.

$40 A MONTH.—Sewing Machine Agents Wanted who will work for the above wages and expenses paid. Address N. BOYLAN & CO., Detroit, Mich.
Dec. 4—w&m2t.

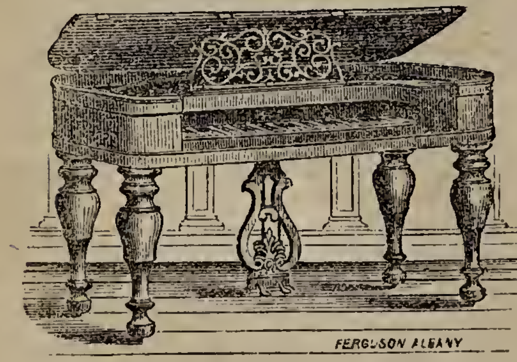
CHESTER COUNTY PIGS.

The undersigned continues to execute orders as heretofore for his pure stock of the above celebrated breed, which will be carefully shipped to any point of the Union, in pairs not akin

The selections are made only from pure bloods, and chiefly from premium animals which have been uniformly successful at our local Fairs. He refers to purchasers from him in all sections of the Union.

PASCHALL MORRIS, Agricultural and Seed Warehouse,
Feb. 14—wtf. 1120 Market-street, Philadelphia.

BOARDMAN & GRAYS'
PATENT IMPROVED
INSULATED IRON RIM AND FRAME



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WILLIAM McCAMMON,
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Albany, N. Y.
☞ Send for illustrated price list. Nov. 27—w&mtf.

1863 THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS. 1863

NO. IX---FOR 1863.

One Hundred and Thirty Engravings!

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  2. Estimate for a Farm of One Hundred Acres.
  3. Causes of Disaster
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II. MANUFACTURE OF MAPLE SUGAR—Seven Engravings.
  1. Sap Boilers.
  2. Evaporators.
  3. Processes of Collecting and Boiling the Sap.

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  2. Carpenter's and Mason's Specifications.
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  4. Highways—Lightning Rods—Osier for Bands—Tape Line in the Cornfield.
  5. Forest Leaves for Litter—Good Smoke House—Corn Marker—Scalding Tub—Harvesting Peas.
  6. Chain Pumps—Irrigation—Draining—Clean Land.

VI. FRUITS AND FRUIT CULTURE—Fourteen Engravings.
  1. Autumn and Spring Transplanting.
  2. Dwarf Apples.
  3. Rules for Tree Planters.
  4 Systematic Formation of Pyramids.
  5. Two Native Plums.
  6. Sending Buds by Mail.
  7. Shortening in the Peach.
  8. Construction of a Cheap Grapery.
  9. Gooseberries.
  10. Time for Pruning Orchards.
  11 Fruit versus Malaria.
  12. Dwarf Cherries.
  13. Strawberries—Quick Returns.
  14. Pruning the Quince.
  15. Select Lists of Apples.
  16. Labels for Fruit Trees.
  17. Select List of Grapes.

VII. INSECTS BY DR. ASA FITCH—Thirty-Four Engravings.
  1. Definitions of Terms, &c.
  2. Descriptions of Orders.
  3. Insects which Injure Fruit Trees.
  4. Insects which Injure Grain Crops.
  5. Insects Injurious to Gardens.

⁂ To show how full and valuable an article this is, it may be mentioned that Six Insects injurious to Fruit; Thirteen injurious to Grain, and Six injurious to Gardens, are described with complete and new Illustrations, engraved expressly for this article in the Annual Register. It forms, in point of fact, the readiest hand book of entomology for the practical use of the farmer and gardener, we have ever seen.

VIII. NOTES ON NEW AND DESIRABLE FLOWERS—Ten Engravings.
  1. Double Zinnia.
  2. Japan Pinks.
  3. Bidens Atrosanguinea.
  4. Cuphea Limapanl—The Striped French Marigold.
  5. Dwarf Nasturtium—New Sweet Williams.
  6. Dwarf Convolvulus—Oenothera Camarkiana—Splendid Gazania.
  7. Lychnis Haageana—Whittavia Grandiflora.
  8. Calleopsis Cardaminifolia—The Gaillardias.

⁂ This article was written for the Annual Register with Drawings and Engravings expressly prepared to accompany it, and not before published in this country, by James Vick, Esq., of Rochester.

This, preceded by the usual Calendar pages and Astronomical Calculations, forms a book which is certainly cheap at its retail price and the Publishers, with a view of rendering its circulation still wider and larger than that of any previous Number, are prepared, as above intimated, to offer the most liberal Terms for its introduction in quantities, either to Agents, Agricultural Societies, Nurserymen, Dealers in Implements and Seeds, or any others who take an interest in the dissemination of useful reading, and in the promotion of Rural Improvement.

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Address all orders or inquiries to the publishers.

LUTHER TUCKER & SON,
Nov. 20, 1862. Albany, N. Y.

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HORSE POWERS THRESHERS AND CLEANERS,
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Orders received now for the Mammoth or Pea-Vine Clover, to be delivered the coming spring.

E. H. REEVES & CO.,
Nov. 27—w13t. No. 185 Water-Street, New-York.

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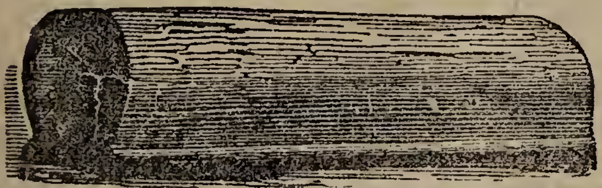

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THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N. Y., MARCH, 1863. No. 3.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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The Cultivator & Country Gentleman.

Changes in Farm Products and Resources.

Only a few years ago, the great and almost only marketable product of Western New-York farming, was wheat—the other grains, with meats, wool and fruit, being grown but slightly above the point of supplying the wants of our own town and county population. Comparatively speaking, the farmer who failed in his wheat, failed in all—his money bringing crop—his great resource for cash, being lost. The demands which must be met, were met at the expense of his stock, his wood-lot, some labor off his farm, or some projected improvement, for he had no such resources then as now for an income. He had not then three or four harvests instead of one—some of which were quite certain to prove highly remunerative. And when the wheat crop became first an uncertainty and then a failure, a despondent feeling came upon us, not, however, of long continuance, for immediately the question was agitated, "What shall we substitute for wheat in our farming?" and the best minds of our agriculturists were given to its solution.

In one of the agricultural addresses of the late JOHN DELAFIELD, Esq., he gave this subject his careful consideration, and his remarks fore-shadowed in some respects, the changes which have taken place. The question, he remarked, "does not admit of a specific reply, and can only be met by suggestions applicable to our farms in proportion to the capital employed, and to their conditions of fertility. Many have substituted barley; if all farmers do so, we may not find a compensating market value, for a supply suddenly increased." This remark was indeed prophetic. The supply was so increased that prices went down from one hundred to one-hundred and twenty-five per-cent within a few years, and barley growing ceased to be remunerative, both from this cause, and the injuries of various insects to which it was newly subject. Mr. D. lays down these sound principles: "An established rule of economy is, that *supply will follow and be created by demand.* We must, therefore, seek to supply from the soil the wants of the many other classes of people, who necessarily depend upon agriculturists for their subsistence. This system of supplying demand saves us from speculative acts, hopes and fears, restraining us within the legitimate scope of our vocation."

The address then goes on to show by statistics that the demand for beef, pork and mutton, in New-York city, is far beyond the power of our State to supply—that this demand is ever increasing there, and in all cities and towns—making stock a profitable product to the farmer. Butter and cheese are also largely consumed. From these facts he argues as a substitute for wheat raising, that we "breed, feed and fatten more animals than has been our custom." It is not likely that he anticipated—indeed, no man did—the great agricultural resources of the West, which were to be so rapidly and astonishingly developed, or the immensely increased foreign demand for all our products, which has arisen so recently—a demand which all our enterprise and labor will not soon supply, as the one will long keep pace with the other.

Other public spirited and far-seeing men sought to direct the attention of farmers to the certain and ever-increasing demand for wool and fine fruit, and to the importance of improving the character of these and of our dairy products. The improvement of meadows and pastures was ably urged by Mr. Delafield; he declared that a "reform in their treatment must take place before we could breed or fatten cattle to the greatest advantage." And a reform has taken place, or rather has been commenced, and just so far as it has gone, just so far our stock rearing and feeding proves profitable. It would have been impossible ten, or even five years ago, to have done such a business as we are now doing in cattle, sheep and swine. And our dairy products have been largely improved, both in amount and character, until there are ten first-class dairy farms where there was but one a decade of years gone by. The number of pounds of wool now marketed is far beyond the most enthusiastic hopes of those who have urged this interest upon us, and the fruit crop of more than one county of the "Genesee country," is frequently as valuable as was its wheat crop when that grain was its chief reliance for export.

The changes in our farming may be briefly stated as the substitution of many products for a single one, marked largely by the increased attention given to the improvement of the grass and forage crops, and their manufacture into animal products; wool, pork, beef, mutton, butter, and cheese.

Wheat farming, pursued alone, was an exhausting system, while stock growing and feeding is an improving system of agriculture. It is so because it insures manure and its application, and it will ever be found, on our arable soils, that good grass crops show that we are prepared for growing good crops of all kinds. The wheat crop is again quite an item in our exports, and it is grown with quite different culture and preparation from that formerly given.

Clover enters largely into our rotations—so much so that we begin to export instead of importing clover seed, as we did less than twenty years ago. Indian corn has a greater share than ever in our agriculture—as it is found that more cattle-food can be grown of this crop on an acre than as cheaply of anything else, and that pork-feeding in connection with dairying is a source of profit. Spring wheat has been largely produced, but is fast giving way to the winter variety—though in many instances it has proved quite remunerative. The oat crop is of considerably increased value. Peas are also considerably grown for feeding sheep and swine, while a new product—white beans—proves one largely profitable to the producer, and is receiving considerable attention. The wool clip is constantly increasing in amount, and sheep receive far better care than formerly, as a general rule. Root crops are more extensively grown, and their value more widely appreciated. And the great crop of all, the one lying at the foundation of all good husbandry — the *manure* crop—is gaining an acknowledgment of its claims from the farmer.

From these facts it will be seen that quite a change has taken place in the products and resources of our agricultural population—though our remarks apply more particularly to Western New-York, still they are more or less true of our general condition. Greater enterprise and foresight are given to the business—if a demand arises, the supply is quick to follow it—and far more capital is now invested in farming than ever before. It only requires thoughtful and judicious management to secure as fair returns from this pursuit as from any in which we can as safely and honorably engage.

◆

Sundry Wants of Domestic Animals.

Salt in regular or frequent supply is a necessity in the animal economy, in order to healthy growth and development. The blood contains a considerable per centage of this ingredient, hence to some extent the desire manifested for it by all grazing animals, as their food contains it in almost inappreciable amount. Dairy stock need it in addition, to supply the salt contained in the milk of which they are daily drained. Horses and sheep should frequently be supplied with salt in summer, and the wants of swine should also receive attention. In winter, the first named animals, if not fed with hay which was salted in the mow, should have an occasional feed brined especially for them, in the warm days of winter. Calves should receive the same attention. Swine require salt when penned in order to health, and when fattening, the proper digestion and assimilation of their food cannot go on perfectly and economically without it. In other words, they will fatten faster on the same food salted, than if fed to them fresh, and will eat more and grow more rapidly because of the better health and appetite.

Water—pure water—of convenient access at all times when desired, is another requisite for farm stock. They are good judges of their wants in this respect, and generally can safely be trusted. Cattle and horses are usually allowed water once or twice a day, both summer and winter, and under necessity will soon acquire the habit of drinking at one time all they require for twenty-four hours. It is much better to water twice a day, as they then need not fill themselves with so large an amount of cold fluid which must be far from comfortable in severe weather. Sheep, hogs, and poultry, also need water at all seasons, and will drink frequently when they can do so conveniently. Pigs and poultry will drink from impure puddles rather than go thirsty, but it is miserable economy which compels them to do it.

Rest—comfortable repose—is another requisite to the thrift of domestic animals. When at pasture they eat and rest, spending at least one-half the twenty-four hours in a recumbent posture. The horse eats his meal of grass, or oats and hay, and then stands at ease, or lies down if it be night, to digest it. If he labors, he certainly needs to lie down after taking his evening meal. It is the plea of laziness rather than of a proper regard for the comfort of this faithful servant of man, which claims that the horse can be taught always to stand in his stall. It is true he will stand all night, rather than lie in a filthy and uncomfortable bed; but how much more to his liking a well-littered stall, where he can lie at ease when he wishes repose. Cattle will stand in dirty sheds and stables until *wearied down*, but when these are dry and clean, they spend a good share of their time in recumbent position, requiring less food, and thriving better than when deprived of opportunity for resting quietly at pleasure. Sheep-sheds and yards should be dry, and kept clean by frequent littering. We need not argue the liking of sheep for quiet comfort at all seasons. But if any animal enjoys a warm, dry bed, and uninterrupted sleep, it is the hog. If any complain of the neglect of their wants in this respect, it is this animal, and we cannot blame them for the clamor, when treated as swine sometimes are, crowded into small pens, and forced to eat and lie in their own offal. Give the pigs a sleeping room and straw, and allow them a chance to practice cleanly habits, and no animal is more nice in regard to their beds than they.

Food, the chief want of every living being, cannot be forgotten by those who have care of domestic animals. But their liking for *variety*—for a change of nutriment and condiment—is a matter of some importance. It is worth our while, then, to provide a variety of kind—of hay, with cornstalks, bean and pea straw, and of wheat, oats, &c., and give our stock a feeding of each, as judgment dictates. The different roots and grains are also requisite, and their use is ever rewarded by the better thrift of the farm stock. Every year sees a greater attention given to these points, and a greater improvement and profit from the various domestic animals, and always the most from the greatest thought and labor bestowed upon supplying every real want and instinct of their natures. *

◆

[For the Country Gentleman and Cultivator.]

MY THREE-COW DAIRY.

At the beginning of 1862, I made up my mind I would know just what three cows would do in 365 days. Here is the result—695 pounds of butter, besides selling 200 quarts of milk and 11 quarts of cream, and using all the milk and cream we wanted in a family of three persons, and raising two calves. I have done it all myself—no *Bridgets* or *Susans* to help in the least. Been very regular in milking, and kept my cows in the stable every night the year round. B. J. Campbell. *Glen Haven, N. Y.*

FEEDING FATTENING ANIMALS.

In a recent article on this subject, (Co. Gent., Dec. 4, 1862,) we offered various considerations in regard to the early care and treatment of animals intended for fattening, and promised again to recur to it. We would now, as proposed, offer a few thoughts on the most economical feeding, time and manner considered, for market.

Swine are readily kept growing, but as a general rule cannot be made very fat in hot weather. They will not consume sufficient food for the laying on of a very heavy burden of fat. This points to summer feeding to increase their size, and the keeping until cool weather for the finishing-off process. We believe it a good plan to have a stock of old corn to furnish meal for the first six or eight weeks feeding, and then to finish up with new as it ripens, if the old stock fails us. Many farmers think, and experiments have been made to show, that old corn is more perfectly digested and assimilated than new, and hence is of greater nutritive value. It is certainly a fact that it goes farther toward making pork when fed in autumn, than a considerably larger amount of new corn fed in cold weather. The pea crop has been considerably employed in the early feeding of swine, ripening in good season for that purpose, and also proving an excellent preparatory crop for wheat, so that it can be grown very economically, considering its slight additional demand for labor and upon the soil, over the bare fallow.

Beef cattle fatten most rapidly in summer at pasture, and if kept well through the winter, and given some meal daily toward spring, can soon be brought into fine order for market by grazing alone. But for stock in low condition which it is desired to fatten, good summer pasture during the day, and from four to six quarts of meal at night should be provided. "This treatment," "Large Feeder" is quoted by the *Homestead* as saying, "will get cattle into just as good condition as our market calls for, but if the feed of meal is increased when cool weather comes on, they will lay on the fat in a way that will make you laugh along about the time we are having the first smart frosty weather."

The further suggestions about beef of the journal above quoted, are so pertinent to the train of thought we were pursuing, that in substance, at least, we shall nearly coincide.

In early winter beef is about the lowest in price that it is during the year, but if you have hay and grain to feed, you can keep the cattle up, and the price will increase toward spring, so that you will get pay for your corn or other grain, and a large profit in the manure, which will—with good judgment in buying, feeding, and marketing—pay you for your trouble. "The profits of fattening any kind of stock depend not so much on the price it sells for, because the price of corn, etc., regulates that; but on the amount of food and labor it has taken to bring the animals into marketable condition, and the amount and value of manure made. If beef increases in price at the rate of 50 cents per hundred every month, or if you can improve the quality of your cattle at that rate, it will pay to stall-feed them through the winter with corn at 75 cents per bushel, provided always your stalls are warm and your cattle properly cared for, and you have forage of your own growing to feed them."

"A farmer of large experience tells us he fats his beef in summer, and only calculates to have them hold their own, and be ready for sale when the market suits him; and he calculates that four quarts of meal, with good pasturage in summer and early autumn, will make as much beef as eight quarts of new corn-meal, with the best of hay, in cold weather."

What has been said of beef, will in some respects apply to mutton. In making this meat, it is important to keep the animal always in good thrifty order. Its size and value, and the readiness with which it may be fattened, depends largely upon an always improving condition, yet this fact receives not a tithe of the attention which its importance demands among sheep-keepers. It has recently become a practice with many farmers to buy in autumn considerable flocks of sheep, for the purpose of consuming their coarser grains and forage—selling them in the spring, or summer after shearing, for mutton. The profit of this course depends to a considerable extent on the price paid at first, and the condition in which they are or may be put while at pasture. If brought to their yards in prime store condition, it will require but a small amount of grain, with good hay, to ensure a good product of wool and a fair marketable condition after shearing. Some feed largely on peas and pea straw, others depend on oat and wheat straw, with a mixture of oats and corn; those who grow beans, find the straw of considerable value, while those who have plenty of good early cut clover hay need no other feed to keep their flocks in as good order as they should be for breeding. But to grow prime mutton, and get the best profit of wool beside, we must take the lamb at the beginning, and keep it always in thrifty growing condition until three or four years old, when it will be a third or one-half heavier than under the usual treatment, and will have produced a like increased amount of wool, and will now sell at double the price of the other.

The making of mutton by winter feeding requires shelter, protecting from wind and storm, but dry and well ventilated; convenient access to water, and close attention to the supply of their wants according to their appetites, which ever vary with the weather. A change of food is of advantage, and we believe that root crops will be found profitable when they overcome the prejudice held against their culture and use by many of our enterprising farmers. Some experience is also requisite—no one can be so well acquainted with the care of animals as not to learn more every week he feeds them—and good judgment in buying and selling is always a pre-requisite to profit.

SINGULAR FREAK OF A COW AND PIG.

Messrs. Editors—Some weeks since I purchased of Mr. Pettee of Lakeville, Conn., a Berkshire pig, then about six weeks old. She was put into a pen by herself, but being very uneasy, managed to effect her escape, and took up her abode by the side of the cow, making her nest in the stall with her. No notice was taken of this strange freak of her pigship, until a few days after, when our usual quantity of milk was observed to decrease without any perceptible reason. The pig was, however, noticed to grow very rapidly, and to become more strongly attached to the cow, while she in turn lowed and became very uneasy if the pig went outside of the barn. The milk finally decreased at such a rapid rate, that we were obliged either to buy or separate these two singularly firm friends, as one night, on going to the barn, the pig was found busily employed nursing. This at once explained the mystery, when the pig was of course entirely removed from the barn, but it was many days before the cow became reconciled to the loss of her pet, mourning for her as if for a calf. Others may have noticed such an attachment, but to me it seemed a strange freak, both on the part of the cow and the pig. M

Springfield, Mass.

[For the Cultivator and Country Gentleman.]

FOOT DISEASE IN HORSES.

My horse, a noble and useful fellow, very suddenly became lame, and on examining his left fore foot I discovered that the *heel of the frog* was bruised and bleeding. I quit using him immediately, and turned him into pasture, about the middle of August. I did not notice him for a week, and when I examined his foot the *frog* had become *rotten*, and was full of maggots. I then stabled him, and washed the foot every day with strong soap and warm water, and then applied a liniment. I kept up this treatment for more than a month, and by the use of *turpentine* kept the foot clear of maggots. Still there was no improvement in the disease, and the frog completely rotted out, leaving "proud flesh," which was easily irritated, and kept sore.

For nearly three months I had lost the valuable services of my horse, and I began to entertain fears that I might lose him forever. I now determined to put a shoe with a cork 1½ inches high on this foot, so as to lift the sore entirely from the ground. A new frog soon formed after the first rotted out, which in like manner became diseased and rotted off—this, however, before I had put the high-healed shoe on.

After putting on the shoe I had the foot washed clean *every* morning, and then applied pulverized blue-stone (or rock vitriol) and lard. In ten days my horse was *perfectly* well—the high-heeled shoe removed, and my horse restored to me thoroughly sound, and I have not lost a day of his valuable labor since.

Was it a "stone bruise?" Did the high-heeled shoe or the blue-stone and lard effect the cure?

I hope this article may prove valuable to all who may be so unfortunate as I was in the loss of a good horse's labor, and fortunate to them that, profiting by my experience, the loss may not be so great.

Stanford, Ky. H. T. H.

[For the Country Gentleman and Cultivator.]

CONCRETE HOUSES.

I notice in the last number of The Cultivator an inquiry with regard to concrete buildings, mode of constructing, &c. I have had no experience in this mode of building, having had no occasion to build in any way, but have been much interested in the experiments of others, and think, *if properly managed*, it will prove entirely successful; but if great care is not exercised failure must result. Without materials of the best character, it is useless to make the attempt. I think if A. S. Loveland will send 87 cents to Fowler and Wells of New-York, for a little work entitled, "Home for All," by O. S. Fowler, he will consider it money well spent, as it contains complete directions for erecting concrete walls, and several plans for houses, and is a very entertaining book. I should think it invaluable to any one about to erect a building of this material.

I have before me an engraving and description of a barn erected by Wm. G. Barnard, of Bellaire, Ohio, which appeared in the Ohio Cultivator some time since. The building is 38 by 52 feet, 20 feet high to the eaves, and 32 feet high to the top of gable. The entire cost of the barn completely finished, was $599.00. Cost of lime $40. Cost of collecting all other materials, sand, gravel, and stone, and building walls, $184, making the entire cost of the walls only $224, while a brick wall, according to the statement of the writer, would have cost $980. He also states that "In many locations the walls of this building would cost much less. For instance, laborers were employed at $1 per day; whereas, farm laborers are paid about $12 per month. Then, again, the lime cost 8 cents per bushel, when it can be burnt at a convenient point to the building, at a maximum price of 5 cents per bushel. All the stone and gravel was hauled a considerable distance, which increased the cost very materially. Any inquiries addressed to Wm. G. Barnard, Bellaire, Ohio, will also be promptly answered."

I have seen it recommended to prepare blocks of stone of the concrete, in molds; as soon as the blocks are sufficiently hard, remove the molds and fill them again, and if desired, place blocks of wood in the centres of the molds, which, when taken out, will leave an opening in the block, and thus secure a hollow space in the wall, which will make the building warmer on account of the body of confined air. Tyro Lingo. *Salem, Ohio.*

[For the Country Gentleman and Cultivator.]

POULTRY KEEPING BY CHILDREN.

Eds. Co. Gent.—I see that your Poultry Department is better filled than it used to be, and I am glad of it, as I am quite interested in poultry. My brother and I, (he is fifteen and I fourteen,) have kept fowls for over three years on our own "hook." We make them support themselves, and give us spending money for our own use besides. We have to buy all their grain, except that we usually raise a little corn in the garden. We do not have any other animals, so the hens have all the refuse from the table, which, in winter, we keep in some tin thing and warm for them. We give them pure water two or three times a day now.

We sell the eggs at the store, but as they will not give us money for them, we have made an arrangement with our father by which he uses the eggs and gives us money.

My brother keeps an account of the hens. According to it, the cost our of fowls during 1862, was $4 37, which includes 45 cents worth of corn from the garden. The receipts during the year amount to $10.41. Total profit for 1862, $6.04.

So we each received last year, over and above all cost, $3 02—we divide equally.

The profits include $2.31, the money for which we sold all our fowls, ten, during the latter part of the year.

We sold them all in order that we might get a pure kind. In Nov. we bought in New-York one cock and two hens of the Dominique variety. Are they both good layers and good sitters? They were not just what we wanted.

We have since bought three hens of another variety. I dont know what the name is. They are larger than the Dominiques, and between the two we hope to have large, laying hens.

In a country place like this, where eggs sell by the dozen, and fowls by the weight, it is not necessary to keep breeds pure; and in fact it can't be done unless they are kept closely shut up.

Only one of our hens, a Dominique, has laid as yet.

Ought hens to be fed one, two or three times a day in winter, and how much, if fed on *grain alone*, ought to be given to each hen?

In raising hens for early market, when is the best time to set? Is March too early? A Girl.

Newtown, Jan., 1863.

We look to Mr. Bement for a reply to the queries of our youthful correspondent.

Potato Vine.—I wish to speak of the growth and weight of a single potato vine, one stalk only. It grew from a potato peeling, a stray eye which found a lodgment in an old well, or rather where there once was one, it having caved in some years since, and was nearly filled with stones and dirt, and was the receptacle of all small rubbish in general—also the suds on washing days. The vine grew to the height, or length rather of seven feet, and weighed just fifteen pounds. I pulled it up immediately after the frost struck it, it being at that time full of sap. It was of the Fillmore variety. It had on it several large potatoes of all conceivable shapes, having grown among the stones. I also measured a clover stalk grown on a sandy soil, which measured seven feet to the under side of the head. B. E. C.

[For the Country Gentleman and Cultivator.]

Cotton Culture in Utah Territory.

Presuming that some items in regard to the culture of cotton in this Territory might interest your readers, I have been at some pains to obtain information on that subject, which I embody in this communication.

The cotton country proper—universally called "Dixie" here—embraces certain portions of Washington county, the extreme southern county in the Territory, and the lands adapted to the culture are the bottom lands lying along the small streams forming the head waters of the Rio Virgin river, which flow southwardly and ultimately empty into the Gulf of California. The sources of these streams are separated but a few miles from those of Sevier river, which flow to the northward and debouch into Sevier lake.

The general features of the country are very uninviting, being rough and mountainous, and aside from its adaptability to growing cotton, presents but little inducement for settlement. The grasses indigenous to the country, however, grow luxuriant, and will doubtless be made subservient to a somewhat extensive system of grazing when that section of country shall have become well settled. The first colony was established in 1852, being sent out from the great parent hive of Mormondon, whose symbol of industry is "Deseret," the honey bee.

The settlements increased but slowly in population, there having been but seventy-three families in the whole extent of the cotton country so late as the autumn of 1861. Since that date, however, a great impetus has been given to the movement through the direct agency of "the Church," which has sent off hundreds of individuals and families, with the assurance that they had "a call" to labor in that field of duty. Some two hundred families were thus transferred to the cotton country during the autumn of the last year, and I am informed that now there are some five hundred families resident in that part of the Territory.

The culture was inaugurated only as a *dernier resort*, owing to the great scarcity and consequent high price of the staple, and fabrics manufactured therefrom, both in the States and here. It was not expected that enough could ever be raised to make a surplusage over home consumption, perhaps not in sufficient quantities for that, even; as it was demonstrated after investigation and a careful calculation based thereon, that no greater area in the *entire Territory* than *eight to ten thousand acres* was adapted to the cultivation of the staple.

Cotton was first planted in the spring of 1862, and was found to be eminently successful, although requiring an extensive and laborious system of irrigation, in common with all operations in this Territory looking to success in agricultural pursuits. No extensive tracts or large fields were planted; a small "patch" or perhaps an acre or two at most, being tilled by each of the families then resident there. It is estimated that two hundred acres was the entire area thus cultivated, the total yield of which is calculated at seventy five thousand pounds, or an average of three hundred and seventy-five pounds to the acre. The greatest yield was thirteen hundred and fifty pounds "in the seed," per acre, equivalent to four hundred and fifty pounds when ginned and cleaned.

The most favorable localities for the culture were at Santa Clara and Washington, about three hundred and sixty miles south from this city, and but a few miles north from the southern boundary line of the Territory.

The quality is a fair upland of which I enclose a sample to enable you to judge of the length and fineness of the fibre. There was but two gins in the country prior to the return of the "Church trains" from the States, late in the season, which brought four of the most improved construction, precisely like those in use in the Southern States. The two originally in use were made here, and were clumsy affairs, and consequently somewhat inefficient.

It is confidently hoped that with the experience gained by last season's operations, together with the improved appliances now at hand for ginning and saving the cotton, that henceforth the production will be largely increased, sufficient at least to supply the more urgent necessities of the people. At any rate the development of home resources in that respect will be thoroughly tested by the application of an extended system of labor, made effective by the industry characteristic of the working classes here.

I will say, while on the subject of the cotton country, that sorghum is also extensively cultivated there, far more than a home supply being manufactured, the surplus being exported and bartered for wheat or flour produced in Iron county, which lies immediately north of Washington, both of which stretch across the entire breath of the Territory from East to West. The farmers of the latter county find it far more remunerative to cultivate cotton and cane, than in raising cereals.

Grapes succeed in perfection there, rivaling California even in that respect, and thousands of cuttings have been procured from the latter State, as well as from this city, to start their vineyards. The vines need no protection whatever, but grow luxuriant in the open air, and produce most luscious fruit in great abundance. Apple trees likewise grow thriftily, and will succeed admirably; but peach trees are a failure, the winters being severe enough to kill them.

The keeping of bees is likewise a decided success, and efforts are being made to introduce and feed them on an extended scale. It is a remarkable fact that in no other portions of the Territory can bees be kept, as they invariably die.

I will remark *en passant*, that the famous (or infamous) "Mountain Meadow massacre" was perpetrated in the cotton country, at a point some forty miles northward from Santa Clara. This occurred in 1857, when some one hundred and twenty emigrants from Arkansas,—men, women and children—while on their way to California, were inhumanly slaughtered by the Indians. A ranche is now established within three miles of the scene of that sanguinary conflict.

For much of the above information I am indebted to Hon. George A. Smith, Church Historian and Recorder, and member of the present Territorial Council, to whose kindness and courtesy I am under much obligation.

Great Salt Lake City, U. T., Jan. 10, 1863. C. H. HOWARD.

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[For the Country Gentleman and Cultivator.]

The Way to Construct Wood-Houses.

If rain and snow were to fall always perpendicularly, and to remain where it falls, the true way to construct wood-houses would be, to leave the sides all open, and make simply a roof to carry off the water. But as snow and rain will drive horizontally, the *sides* of wood-houses must be inclosed, or the snow many times would be deeper on the wood under cover, than it is out of doors. Wood-houses, therefore, must necessarily be made tight, for the purpose of excluding the snow.

Yet, to secure good ventilation, a *flap door* should be made on each side of the wood-house, just above the sills, which may be kept open at all times except during the time when driving storms prevail. By having these flap doors near the bottom of the ranks of wood, and by piling the wood with the *ends* of the ranks towards the flap doors, the most complete ventilation will be secured; and wood may be piled in such wood-houses when it is as green and wet as it can be, and will dry out and season very rapidly, and most thoroughly, in a few months.

I have tested this manner of constructing wood-houses, and I have found it to be the best way of inclosing the sides of wood-houses that I have ever met with.

In Tompkins county I built one wood-house with tight sides and tight floor, and the wood came out after a year, mouldy and unseasoned. I then built another one with a flap door on the side, and the wood dried out very quickly.

S. Edwards Todd.

[For the Country Gentleman and Cultivator.]

PREPARATION OF WOOD FOR FUEL.

Notwithstanding all that has been written about preparing wood for fuel, there is yet as much chance for improvement in this branch of business as there ever was. But few people comparatively manage economically with their wood for fuel. Almost every one who burns wood, whether he purchases it, or procures it from his own woods, sustains more or less loss in his fire wood, from the improper manner in which it is prepared. Those who have been accustomed to burn well prepared wood, and then are required to make their fires of wood which has not been prepared, are not a little surprised to find what a vast difference there is between the same kind of wood when one sample has been prepared as it *should* be, and the other prepared as most farmers usually prepare it.

The excellence in fire-wood consists in having it well seasoned and thoroughly dried before it has undergone any change, after it has been cut. When fire-wood is cut, and split into cord-wood, and exposed to the influences of the weather—wet and dry—for eight or ten months, or more, the vitality of that wood will be so greatly injured that in many instances it will not produce half as much heat as the same amount of wood *would* have produced, had it been properly prepared and properly secured. This is more particularly true of white beech and river beech, but not so much so of red beech, and of both soft and sugar maple, basswood, and all other kinds of perishable wood.

When the moisture is allowed to remain in wood, or rather when wood is placed where the moisture will not readily escape, a chemical change will soon commence which will soon end in what we colloquially term "dry rot." And every one who knows anything about getting up heat with different kinds of wood, and with wood in different conditions, knows too well to be told that wood that has lain so long that the "dry rot" has commenced will produce but little heat. And the same may be said of "dozy," or sap-rotten wood. The *life* in dozy wood is gone, and although it may be *dry*, and will burn like tinder, it gives out but little heat; whereas, had that same wood been properly prepared, the amount that is now required to get up heat enough to cook a meal, to bake, or warm a room, would have heated the stove to redness, and have burned everything black, and would have rendered the room not only uncomfortably *warm*, but as hot as a Thomsonian steam box.

This is the condition of most of the dry wood that is carried to market in most of our cities. The beech that was cut last winter or spring, and that has been exposed to the weather for several months, is, for the most part, sap-rotten and "dozy," and the maple, in most instances, even when it appears dry and well seasoned, has lost much of its vitality, and will fry and simmer when it is burning, and will not produce half the heat that it would have produced had it been properly prepared.

Could farmers and others know exactly how much they lose in a single year by wrong management of their wood for fuel, they would be so surprised at the difference between the same wood when in a different condition, that, I think, they would abandon the present practice at once.

The True Way to Prepare Wood for Fuel.

Water will not burn readily, neither will the *sap* of any kind of wood burn even tolerably well. Therefore, in in order to get the greatest amount of heat from wood, the moisture must all be dried out of it. The best and most economical manner of doing this will give us some correct ideas about the true way of preparing wood for fuel.

At whatever season of the year wood is cut, it should be split immediately, and piled up under a shelter that will protect it from rain and snow. This shelter should be open on the sides, so that the air may circulate freely through the entire pile of wood. Then as soon as any moisture evaporates from the wood it will be carried away, and if the roof does not leak, the wood will soon become thoroughly dry, and will burn like tinder.

There is almost as much economy to be exercised in curing wood as there is in curing grass for hay. There is, in all kinds of wood, a great amount of gum, sugar and starch, which if dried quickly, will burn well and produce much heat; whereas if it be allowed to become partially dry, and then to become wet again, the vitality of the wood will become very much injured, just as hay will be injured by being exposed to the influences of rain and sunshine. And when the wood is piled in a close wood-house, where the air cannot circulate freely, it will become *sap-soaked* and *dead*, and will not burn many times as well as green wood. The sooner wood can be split into small sticks and piled up under an airy shelter, the better it will be for fuel.

Cutting Wood Short and Long.

There is great need of exercising more economy in the *length* of wood for the kitchen stoves. When wood is prepared exclusively for stoves that are designed only for warming the rooms in which they are placed, it makes little or no difference as to the length which fuel is cut. But wood for the kitchen stoves should usually be cut short—say not more than one foot long.

The economy in such a practice will be readily perceived. At many seasons of the year it is desirable to kindle but little fire—say just enough to boil a tea kettle, or to heat a kettle of water. Therefore if the wood be 20 or 24 inches long, it will require about twice the amount of wood that is really necessary to produce the desired amount of heat. If the wood be about one foot long, the fire can be made directly beneath the vessel that contains whatever is to be heated, and little or no wood will be consumed to no purpose; whereas, if it be cut long, unnecessary heat will be produced in a room, and much wood will be wasted.

But very few people comparatively think of this manner of saving wood. But if a cord of wood cut twice or thrice in two will produce as much *necessary* heat as if it were cut but *once* in two, it would be good economy to cut it short instead of procuring more wood. But when wood is needed simply to warm rooms it will be most economical to cut it as long as the stoves will receive it.

S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

FATTENING SHEEP.

Eds. Co. Gent.—In some of the back nos. of the Co. Gent., S. Edwards Todd gave his mode of making a lot of sheep fat, to be sold after shearing. If it will be of any benefit to any one, I will give my mode of making a lot of sheep fat for early market—say about the 1st of third month (March.) I take our common Merino sheep. I want them low, heavy set, short legged wethers, three or four years old, that will average from 100 to 110 lbs. per head. About the 1st of 12th month (Dec.) I put them up in a yard of about a quarter of an acre, with good water running through it. Here I would say it is a great advantage to have good water handy to them, as they will not go far for it in bad weather. There should also be a good shed or stable on one side of the yard, and it should be so arranged as to fasten them under the shed in stormy weather, and if there was a stack of straw in the yard it would be a great advantage. They would eat a great deal of it, and it would serve for litter for them.

I commence feeding them about a bushel of shelled corn, or, which is better, a bushel and a peck of corn and oats mixed half-and-half, and increase it to two bushels of corn or two and a half of corn and oats mixed, per day, with all the good clover hay they will eat, and salt them regular three times a week, or else have a trough of it where they can have access to it at all times.

With this manner of feeding, if they have been attended to regularly, for ninety days, I will insure them to be fat, if they will fatten at all. I have had them gain 20 lbs. per head. I generally feed about a hundred in a lot, though fifty would do better. And if the yards have been kept littered as they should be, there will be a pile of manure there that will pay for all the trouble of feeding and taking care of them. T. Hall.

Mount Pleasant, Ohio.

Fruit Grower's Association of Western N. York.

The Winter meeting of this association was held at Rochester, commencing on the 15th inst.—the President, H. T. Brooks in the chair.

A very fine collection of 50 varieties of Winter Pears, was exhibited by Messrs. Ellwanger & Barry, including Easter Beurre, Willermorz, Jaminette, Doyenne d'Alencon, St. Germain, McLoughlin, Josephine de Malines, Lawrence, Winter Nelis, Beurre d'Aremberg, Epine Dumas, Beurre Gris d'Hiver, &c. Fine collection of King of Tompkins county apple, from Col. E. C. Frost, and another from H. N. Langworthy. Fine samples of Catawba grapes, looking as fresh as when gathered, from Judge Larrowe—also well preserved samples of Isabella, from Dr. B. Spence. Nice collection of 14 varieties Winter Pears, from W. B. Smith of Syracuse, including some of those already named. Collection of well grown samples of Baldwin, Pomme d'Or, &c., by H. N. Langworthy. Five varieties of apples from H. T. Brooks, including good samples of Northern Spy, Peck's Pleasant, &c. Some apples of Southern and Southwestern origin, as the Nick-a-jack, New-York Pippin, Red Rambo, &c., exhibited by Chas. Downing.

The President gave a very fine valedictory address on the history of the apple, giving a great deal of information on its early history, and tracing the origin of many of the noted sorts.

The following gentlemen were elected officers for the present year:

President—Stephen A. Ainsworth.
Vice-Presidents—H. E. Hooker, Rochester; Judge Larrowe, Hammondsport; C. L. Hoag, Lockport.
Secretary—James Vick, Rochester.
Treasurer—W. P. Townsend, Lockport.
Ex. Committee—P. Barry, J. J. Thomas, C L. Hoag, W. B. Smith, and S. B. Garritt.

From the discussions which took place during the several sessions, we give the following on the

Best Three Native Grapes.

Question.—Which are the best three native grapes for home consumption?

Judge Larrowe would propose the *Catawba*, where it can be ripened. At Hammondsport, at the head of Crooked Lake, we can ripen the Catawba, owing to our steep hill-sides—it would ripen better than the Isabella with them. There were last year raised over two hundred tons where eight years ago the first grapes were planted, and there are enough now planted to produce 2,000 tons per year. We can make better wine than they can at Cincinnati. Our grapes sell for from two to five cents per pound more than those from Cincinnati. Wine made from our grapes requires *no* sugar. The frost keeps off with us a month longer than anywhere around us. The next to Catawba was the *Diana.* It was the best keeper of almost any. The third was the *Delaware*—a good wine grape, but would not keep well.

Mr. Salter.—The three best grapes for home consumption—1st, *Delaware*, best for this section—good grower, ripens well, and keeps tolerably. Next, *Diana*, best in quality, but not most sure to ripen—with neglect will over bear, and not ripen evenly—with good culture will ripen well—best keeping grape we have. Next, the *Concord*—good grower, good bearer, ripens well everywhere, but does not keep very well. These are the three best probably for market also.

W. B. Smith—The Delaware, it is said, sometimes does not keep very well, but his experience is that it is a first rate keeper, far better than the Isabella. Thinks it the best grape there is. Would take as four sorts, the Hartford Prolific, Delaware, Diana and Concord.

Chas. Downing—The Delaware, Crevelling and Allen's Hybrid, the best three. The Delaware will stand the most frost of any kind.

Mr. Olmstead—Picked the Delaware on the 11th of Oct.—has them yet—they are good now, though somewhat shrivelled.

Judge Larrowe said it was so thin skinned that it would in some cases burst and become a prey to wasps and ants. This would be an objection to using it for market. It would not, in his opinion, stand transportation to market. The Diana is the best keeping grape we have.

The President put up a few Delaware grapes in boxes, putting thick layers of newspapers between the grapes—they kept as well as the Isabella, but not as good as the Rebecca—some poor grapes among them.

Judge Larrowe said he had nothing to say against the quality of the Delaware, but its keeping quality was its objection.

Mr. Hoag would take Hartford Prolific, Delaware and Diana. The Rebecca was very productive when old—would add the To Kalon and Concord.

Dr. Spence would say, where the Catawba can be ripened well, there would be none better than the Catwba. Delaware and Diana would be the next two. The Catawba ripens well with us—always in fact.

Judge Miller, New Haven, Ct.—The Catawba is the most valuable grape where it can be ripened. On Kelley's Island it grows finely. He found the Cleveland Catawbas much finer than those at Cincinnati or Missouri. Mr. Kelley packed for him in small boxes, and sent to him in New Haven in good condition; put them in a cool place, and for all that long winter had them in abundance, and on 20th March he sent to Prof. Silliman and others, as fine specimens as one could have. I think its keeping qualities are owing to its thick skin. Thinks open water an indispensable condition to its perfect ripening. Has raised hundreds of pounds in Rochester, but never got any ripe.

Judge Larrowe—There are thousands of acres around the lakes in Western New-York, suitable for raising the Catawba. The Isabella grape is much better with them than around Rochester.

Mr. Moody—The Delaware always ripens, and does not run all to wood—just right in this respect—Delaware, Diana, and Concord, would be his three grapes. The flavor of the Diana was the best of any he ever eat. On Kelly's Island, where the Catawba rots badly, the Delaware does not rot. The Diana, as the vines get older, ripens evenly, and is very valuable indeed.

Mr. Maxwell, Geneva, said the Catawba for children's use was not as healthy and digestible as the Delaware, Diana, Hartford Prolific, and others. The hard pulp was an objection to its use for children. They much preferred the others to Catawba obtained from Hammondsport.

Mr. Frost, Rochester—The best grape he ever eat was the Rebecca—the three best are the Hartford Prolific, Delaware, and Diana.

Dr. Jackson was not a fruit grower, but knew something of fruit-eating, having charge of a large establishment for invalids, who have eaten two tons of grapes this fall—have used Delaware, Diana, Catawba, and Isabella. The Catawba, grown at Hammondsport, could not be eaten—would as soon feed them bullets as Catawba. They could eat Delaware, but the Isabella was decidedly the best for persons suffering from stomach diseases. The patients soon grow tired of Delaware—of Isabella they never grow tired. For food, no grape is better.

Judge Miller—The Catawba pulp, is a great objection to it. A friend of his has a large vinery, and he finds the fruit can be eaten with perfect freedom. The Delaware is eminently free from pulp, and thus healthy.

HORTICULTURAL INQUIRIES.

Grafting the Peach.

I wish to know whether peaches can be grafted the same as apples, in pieces of roots, or the best way to graft them on peach, for I am satisfied it is hard to raise sound trees by budding, for this reason—where the seedling stock is cut off it seldom heals over sound, in time leaving too much of a brown or dead place in the main part of the seedling stock, the very foundation of the tree. I care not how fine the tree looks from the bud up; if the seedling stock under it is once brown in the heart, the tree is not sound. The same with some cherry trees and many of the dwarf trees—thus so many failures with them.

Union City, Ind. G. G.

Peaches cannot be root-grafted in our climate. The difficulty our correspondent speaks of may be obviated by budding into small thrifty peach stocks, near the surface of the ground, and pairing off the stub the following summer, causing it quickly to heal over. The small amount of dead wood thus left in the centre of the tree will be no detriment whatever if encircled in plenty of strong, healthy wood. Unlike animals the heart of a tree is not the vital part, and may be entirely cut away, or replaced with as much sawdust, without at all affecting its health or vigor. But a large wound occasioned by an old stock is so long healing over that such trees are of little value.

Grafting, and Saving Girdled Trees.

In an article of yours on grafting, in Patent Office Report for 1856, you speak of grafting old apple trees by cutting off large branches, and grafting into the stumps. I wish to ask how such stumps, from three to six inches in diameter, are prepared for the insertion of the scions after being cut off? Is it by splitting across the face of the stump, as in a smaller stock? (1.)

In root-grafting roses, should the scion and root be fitted together with a *tongue*, as in root grafting the apple? (2.)

A person here has had some 50 very fine thrifty young apple and standard pear trees girdled by some miscreant in human form. The trunks of the trees are from two to five inches in diameter, and the bark was shaved off with a knife entirely around the trunks, leaving a denuded surface from 15 to 20 inches in length. About *one-tenth* of the *inner bark* still remains, and in some places connects the bark above and below. They were immediately coated with grafting wax, over which a cloth was closely wrapped. Do you think it possible that any of those trees might survive after such a skinning process? Would it be best to insert scions connecting the bark above and below? (3.)

Can the Quince be propagated by either cleft or root grafting on large or small stocks, as *surely* as the apple, and in the same way? I have some Angers and Fontenay quince stocks of various sizes, which I wish to graft with Rea's Seedling. (4.) A. Babcock. *Union Co., Ill.*

1. It is of course always desirable to make as small wounds as possible; but where large ones are absolutely necessary, they may be most quickly covered with new wood in the following manner: Set the grafts at the outer edge an inch or two apart, all around like a crown. They will grow rapidly, and in a few years cover the whole cut surface. There are two ways of setting them; one by splitting across into the wood, and inserting them in the usual way for cleft grafting; the other, by setting them between the bark and the wood, making a small slit in the bark for this purpose, and shaving the inner side of the graft flat. We have not experimented enough with these two modes to say which is the best.

2. Will some of our rose-propagators please inform us what mode they have found best after full trial. We have observed different practices among them.

3. If there are several streaks of bark left, the trees will probably grow and do well. If there is but little left, it would be well to insert connecting scions, according to the mode described on page 333 of Rural Affairs, vol. 1. For the sake of convenience we copy the description of that mode.

A number of young shoots or portions of the branches of apple trees are first provided, and as they are wanted, are sharpened in the form of a wedge at each end, being long enough to connect the upper and lower portions of the bark, separated by gnawing. A chisel, the breadth of which is about equal to the diameter of the shoots, is then driven into the bark, (say half an inch from the gnawed edge,) both above and below, and the prepared or sharpened shoot is then firmly pressed at each end into the cut made by the chisel. This is easily done by first bending the shoot outwards at the middle, so as to allow each end to enter, and then crowding it in again. The place must be then well waxed. The *edge* of the chisel must be placed so as to make a horizontal line in the bark, and then be driven nearly vertically upwards or downwards for the upper or lower parts of the bark. When the shoot is placed in the cut thus made, some portions of the line between the bark and the wood in both tree and shoot, must necessarily coincide, and as a consequence, the two parts almost invariably adhere and grow together—there is scarcely ever a failure. Fig. 1, represents a girdled tree; Fig. 2, the same with the shoots inserted; and Fig. 3, is an enlarged section, showing the position of the sharpened end of the shoot when in its place. The great advantage of this mode consists in the rapidity with which the work may be done, and the difficulty of displacing or knocking out these shoots when once in. There should always be a few stout stakes driven around each tree, to keep off plows, harrows or cultivators which might otherwise strike the tree and loosen these shoots.

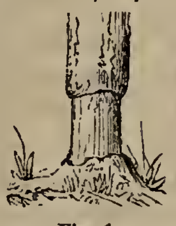
Fig. 1.

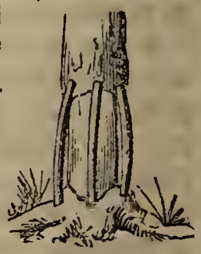
Fig. 2.

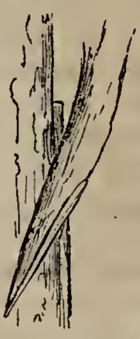
Fig. 3.

The shoots used were about one-fourth to one-half an inch in diameter when applied, and they had already tripled their original size. Probably larger ones would be better, and the more numerous they are the greater will be the security, and the sooner they will grow and unite in one solid trunk.

4. They may be propagated as proposed, and if well done there will be scarcely a failure.

Pears for Market, &c.

1. My location is sixty miles south of Chicago. I have a farm of some sixty acres, which has cost about $4,000. It does not pay well at all, because of the low prices of produce—have rented at the halves for a few years, while I have attended to bees, orchard, &c. I want to get in something else; have thought pears might be that thing. What do you say? Can you suggest anything better? If not, please give me a list for 100 trees (would prefer part dwarfs, as they *pay* soonest,) that promise to pay best in this location. (2.) Do any particular sorts do best on White Thorn? (3.) Will it do to graft pears on to apple? Books say no; neighbors with some experience say yes. What say you? (4.) Is there any harm in leaving the little mounds thrown up about young trees to keep away mice? F. S.

Will County, Illinois.

1. It is difficult to give particular advice for every locality; we can therefore only state, in a general way, that experiments for some years should be first made to determine the adaptedness of dwarfs or standards, or the different varieties, before extensive plantations are made. These experiments may have been already performed in

that neighborhood; if so, their results will indicate the course to be pursued better than any advice we can give. Dwarf pear trees have only partially succeeded in the west, and they may or may not answer in that place. Among those most likely to succeed are, perhaps, the Flemish Beauty and Urbauiste, double worked, and Louise Bonne of Jersey, Buffum, Jaminette, Long Green, Beurré d'Amalis, Beurré Diel, Beurré Hardy, &c. 2 & 3. The White Thorn is an imperfect stock at best, and although trees occasionally succeed well upon it, those who approve of the apple stock for the pear have probably not tried it for many years, or judge only from isolated or exceptional cases. 4. The only objection is that they cannot remain there if the trees receive proper cultivation, and if they become covered with grass in the summer the mice may follow them up to the bark the succeeding winter.

A Problem for Grape-Growers.

Messrs. Editors—For many years I have been a careful student of the sayings and doings of our Horticultural Doctors. Circumstances not necessary now to mention, have prevented a very extensive experience, but I have endeavored to have my eyes and ears always open as to what was going on among the great lights and practical men of the Horticultural profession.

I have been looking for solid ground upon which novices like myself might stand, and points of departure from which we might start and follow straight ahead to the goal of sure success; but I am as yet disappointed, and nearly as deep in the fog as ten years ago.

It has been said that in a "multitude of counsellors there is safety." That certainly was never meant to apply to fruit doctors. Look at the sayings of the late convention of fruit-men in Illinois. Compare them among themselves, and then with other great teachers cast and elsewhere, and tell me, don't you pity us poor scholars?

How many leading fruit-men are there who perfectly agree on a half-dozen points as to the management of the various kinds of fruit trees? I begin to think that every man must fight the battle for himself.

I want to plant a vineyard for the production of wine; and I have a problem connected therewith, which, if Mr. Thomas or any of your correspondents can answer satisfactorily, will entitle him or them to my lasting gratitude and admiration, and not only mine but of hundreds of others who are in the same "fix" as myself.

Given—a climate of variable nature, extremes of heat and cold, wet and dry—a soil, clayey loam, black for the first foot, yellow clay for the next ten or more feet, but rich enough to raise the tallest kind of wheat or grass, upon one season's exposure to frost and air; retentive of moisture—draining tile impossible to be had at reasonable prices—labor $1 per day—land $10 to $20 per acre. Now how shall I proceed to produce *the greatest number of pounds of grapes of best quality, at the least possible expense?*

You understand the problem, gentlemen? "I pause for a reply." Hawk-Eye. *Melrose Farm, Iowa, Jan.* 19

If there is much vegetable mould in the top soil, it would probably cause too free a growth in the vine; it may be better therefore to select such localities as have the yellow sub-soil nearer the surface, or else to trench-plow deeply, so as to intermix the two. Our correspondent can judge better by being on the spot, whether under-draining is absolutely necessary. We have seen a soil in Indiana, too wet for the successful growth of the grape, made to produce very heavy crops, by plowing between the rows of vines, so as to leave a deep dead furrow midway between them. The rows of vines were twelve feet apart, were trained on trellis, and gave crops exceeding anything we have seen about Cincinnati. If these dead furrows are insufficient, we think our correspondent will find well-made brush drains to answer an excellent purpose, and to last a number of years.

Doctors will, of course, always disagree, as long as palates, treatment, localities, and circumstances differ. It cannot be otherwise, and it ought not to be; for this very difference enables us to decide what to do under our own peculiar circumstances. The proceedings of the Illinois Horticultural Society, to which Hawk-Eye refers, were quite as unanimous as those of the Western New-York Society at Rochester, whose proceedings have lately appeared in this paper. Yet we find, with regard to some varieties, there was nearly unanimous expression in their favor,—showing that they succeed under nearly all circumstances. With other sorts there were conflicting opinions, indicating certain special influenees not always present. A third list might have been introduced, that would have brought forth a unanimous expression of condemnation. All these are valuable in assisting beginners to make up their minds; but after all, it is necessary to experiment to some extent in every locality, to determine what is likely to be most successful. Those who have large means may make extensive trials, as they can bear large failures; with more limited means, one should be cautious and feel his way.

Management of Orchards.

A new subscriber and a green hand at farming, has just bought a farm with two large orchards—one of them has been planted about twenty five years, and for the last ten years has had nothing done to it—the trees have much dead wood and thick limbs—much dead and rough bark on them, and the ground a heavy sod. Will you be kind enough to inform me what to do with it? Also, whether saw-dust, principally of white oak and chestnut, will not be good to haul into the barn-yard if got very convenient—also to put around trees—also the objections to pruning in January. Beginner.

York County, Pa., Jan. 1863.

The present is a good time to prune old orchards. The wounds, if over an inch across, should be covered with some composition—thick paint will do, but a mixture of tar and brick dust is cheaper, better and more durable. Trees pruned in winter, or before the buds swell, will not be checked in growth by the operation. Pruning in summer, or after the leaves have expanded, unless very sparingly done, always checks the growth of the tree, but the wound heals more readily. The orchard alluded to should have all the dead limbs cut out; and where the branches are very thick, thin out the crookedest and most stunted parts, so as to leave them equally distributed throughout the tree. Avoid the common error of trimming *up*, and leaving long, bare poles within the head; but rather thin in from the outside. Use good judgment, (without which no person should trim an orchard,) and the operation will not be likely to go amiss. Make as few large wounds as possible, and no projecting stumps.

If the orchard is plowed, it should be done shallow, to prevent breaking the roots, which, after ten years rest, may be near the surface. The injury from this cause, however, is commonly much over-rated. If the orchard is kept pastured short, a broad-cast annual top-dressing of manure in autumn or winter, may be quite sufficient and best.

Saw-dust, well dried, makes a good absorbent for liquid manure when spread in yards. The only use of saw-dust placed around trees, is as a mulch, or to keep down weeds where cultivation cannot be given. There is nothing enriching, but in applying it, it must be remembered that a little heap around the foot of the trunk can be of no value, but that it must be spread about as far as the roots extend, which in all established trees is as far each way from the stem, as the height of the tree; that is, for a tree ten feet high, there must be a circle of saw-dust about twenty feet in diameter, and so on for other heights.

[For the Country Gentleman and Cultivator.]

VARIETIES AND CULTURE OF BARLEY.

E. L. H. in your Jan. 8th issue, makes the inquiry—What is the best kind of barley to raise—two or four-rowed? I have often heard the same question asked, and many different opinions expressed, many supposing they had proved the four-rowed superior by counting the number of grains per head of each variety. But actual experience proves that this is not the case. I never saw nor heard of a case where a fair trial was made, that the two-rowed variety did not give the best yield. A single head of the four-rowed presents by far the finest appearance, the grains being larger and plumper, besides containing a greater number of grains, having at times three and even four-fold the number. Still the two rowed more than makes up for this deficiency in number of grains to the head by the greater number of ears or heads to the same surface of ground; besides the heads of the two-rowed variety are more uniform in size. The heads are always nearly of the same length, and have very few blighted grains, while those of the four-rowed are often mere bits of heads of one-quarter the length of others of the same variety. The cause of the thicker growth of straw of the two-rowed is the greater aptness of this variety to stool, sometimes a dozen or even more stalks originating from the same germ.

It has been thought by some that the two-rowed variety was more injurious to the soil than the other, on account of the greater amount of straw taken from the same surface; still the greater the amount of straw, the larger will be the pile of compost with which to replenish the soil. The straw of the two-rowed barley is almost universally the tallest, which makes it far easier of harvesting as every one is aware of, who has undertaken to harvest the short chubby four-rowed, especially on lumpy uneven ground, when the shortest of the straws with their heavy heads get between the lumps, defying the rake or any means to get them out. In the culture of no grain does it pay better to have a smooth even surface, than barley, or at least in harvesting.

There is said to be a difference in the value of these two varieties for malting purposes, the four rowed making a malt sooner, and being a little better. The difference however is but slight, buyers paying sometimes a slightly advanced price for the four-rowed. With us 20 bushels is about the yield per acre, although thirty and forty is not an uncommon yield. In the year 1860, I helped measure the yield of one acre, which was sixty-seven bushels. The ground on which it grew had been planted to tobacco the previous season, the soil for the tobacco of course being made exceedingly rich; this, together with the culture which the tobacco received, rendered the soil is an admirable state of tilth for barley the next season. This was the finest acre of grain of any kind which I ever saw, the grain standing over five feet in height, and perfectly loaded with long plump heads. It was of the two-rowed sort.

Barley succeeds best on a rich well drained soil which had been in corn, beans, or some hoed crop the previous season. It will not do well on sod with us; in fact I never saw a good piece of barley which had been sown on sod, not even doing as well as oats, for oats will do very well on sod plowed the previous fall, while barley will not.

There is no grain which needs as much care in harvesting, to secure a good price, as barley, as the purchaser looks more at the brightness of the berry than to plumpness or freeness from foul seed, &c. And I think I may here say, that the many farmers along the east side of Cayuga Lake are wofully careless in harvesting this grain. I have seen acres and acres which have been cut with a reaper, and allowed to lay in the gavels for many days through many hard rains, the only attention which was paid to it being to turn it over once in a while to keep it from rotting. This of course almost ruins it for malting purposes or anything else.

Barley straw will heat quicker than almost any other, and should therefore be secured as soon as possible from the wet. Binding and shocking is resorted to in a great degree by the farmers west of the lake, and they are repaid for their trouble by an increased price for this grain. If a buyer can get a part of or whole boat-load of prime barley, it will of course pay to give an advanced price, but where one farmer's crop is bright as gold, and the next almost black, it will not pay to give a high price for the one to mix with the other. Many put up in gavels before injured at all by the wet, but in so small gavels as to be wet through to the ground by any ordinary heavy rain. Still if the barley be taken (whether cut by reaper or cradle,) when it is partially cured or dried, and put in quite large well made gavels, it will take no injury, and the straw and grain come out almost as bright as though bound and shocked. Even the straw, to say nothing of the grain, will pay for all extra trouble, for in my opinion barley straw is the best of straw for wintering stock—sheep even, if care be taken to separate the chaff or beard from the straw while thrashing, so as not to injure the quality of their wool.

Winter barley is sown to some extent here, and to a greater extent west of the lake. Some immense yields have been had, and it is generally quite profitable if it does not winter-kill. It must be sown however in a protected situation, as it is almost certain to winter-kill badly if sown in exposed situations. It can be sown after wheat-sowing has been done. Still its liability to winter kill will always make it uncertain as to a full crop.

In my opinion there is no better variety of barley to sow than the ordinary two-rowed variety, and I think if E. L. H. will give each variety a fair trial, he will never sow the four-rowed but once. E. A. King.

King's Ferry, Cayuga Co.

[For the Country Gentleman and Cultivator.]

ABOUT POTATOES.

Messrs. Eds.—I have been for some years paying particular attention to the culture of the potato, having as objects in view, the attainment of desirable qualities in the potato itself, and the avoidance of the rot, so often disastrous to the crop. After raising many kinds of potatoes, and experimenting in numerous ways of planting, &c., I have arrived at the conclusion, that cultivators need have no fear of the rot, if they will firstly, avoid old and "worn out" varieties, and plant only new and vigorous kinds, those lately derived from the seed. It is well known by intelligent cultivators, that any given variety of the potato will deteriorate year by year, until it becomes nearly worthless. Bear this fact in mind, and change often the old varieties for new seedlings.

Secondly, avoid clayey soil as you would the pestilence. Potatoes require a dry gravelly, or sandy soil, and will do well even on a rich loam, if thoroughly drained, but I have never known a *good* potato to be raised in clay. There are other influences undoubtedly, local or general, which affect more or less the potato crop, but the cultivator who attends strictly to the above mentioned means, need have little fear of spec-taters at digging time.

Having attended to these matters, the next object is to get as large a yield as possible, without detriment to the tubers. I have this year raised three hundred bushels per acre, of very fine potatoes without manure, at a cost of less than eight cents per bushel, and should you think this worthy of a place in your most worthy paper, I may at another time give you my mode of planting and cultivating this important crop.

As to kinds, I have this year raised principally of Mr. Goodrich's seedlings. The Garnet Chili, and Pink Eye Rusty Coat, I consider unsurpassed for table use, and they yield better than any *good* potato I ever raised. The Cuzco, though not so fine for eating, is most desirable for stock, on account of its enormous yield.

I think the community owe Mr. Goodrich an eternal debt of gratitude, for his labor in producing these valuable esculents. J. H. Jewett. *Moravia, N. Y.*

FOREIGN AGRICULTURAL ITEMS.

PREPARED FOR THE COUNTRY GENTLEMAN.

AN INTERNATIONAL EXHIBITION of Stock and Implements is to be held next July at Hamburgh—amount offered in prizes about $17,000.

THE "Lily of the Valley" is such a favorite flower in England that it is calculated that 50,000 pots of it find a market annually in London alone.

THE SHORT-HORN HERD of the late Jonas Webb,—that of Mr. Ambler of Watkinson Hall, Halifax,—and that of His Grace the Duke of Montrose, are announced for sale. The first mentioned, amounting to about 150 head, is to be disposed of in two lots, one April 15th, and the remainder July 15th.

WHEAT was sent from the United States to Great Britain during eleven months preceding Dec. 1, 1862, to the amount of nearly 27,000,000 bushels against about 17,500,000 bushels during the same period in 1861—and Flour to the amount of 24,430,000 cwt. to Dec. 1, last year, against 3,500,000 cwt. to same date the year before.

GUANO, owing to its high price, and the manufacture of other fertilizers, is yearly diminishing in demand among British farmers. During the eleven months preceding Dec. 1, 1862, there were imported into the United Kingdom only 92,949 tons, against 157,457 tons for the same period in 1861.

EGGS are either constantly growing in popular favor, or falling off in production, in Great Britain, which consumed them from other countries, in 1862, at the rate of 225,489,000 a year against about 202,000,000 in 1861. English farmers don't like to "fash themselves" with chickens.

FLAX AND WOOL, owing probably to the lack of Cotton, were imported into Great Britain last year to a much larger amount than in 1861,—there having been an increase in the quantity of flax up to Dec. 1, of nearly 40 per cent. over the imports of the previous year to the same date,—and in Wool of over 14 per cent.

THE RAINFALL at Edinburgh for the year 1862, was 27.58 inches, or only about two inches above the average of the last fifty years. The apparent wetness of the summer is probably to be explained by the fact that the sky was frequently obscured, with a low range of temperature, and consequently a diminished amount of moisture was removed by evaporation. August and October were comparatively wet months; hence the damage sustained by the grain crops, and the difficulty experienced in harvesting the corn and potato crops, which retarded the seeding of the land with wheat.

SCOTCH CAUTION in crop estimates is illustrated in the following from a recent writer: "A friend used to tell me how he had observed the great caution of farmers in any admissions about their crops. When they used to come down to make purchases at his stores, if the question was asked, 'Well, John (or Saunders,) what sort of return have you this season?' the answer was generally given in one or other of three negatives, which, however, he had come to interpret for himself, and know the value of. The first and lowest form of the answer to his question, he used to say, was, 'Weel, I've seen waur,' and that he found he was safe to put this down as meaning middling. The second, 'It's nae that ill,' he took to imply that it was pretty good; but when the third form was reached, 'It's na that ill ava,' he was sure that it had been very good, abundant even, though still the negative mode of admission was adopted, not the open, direct and hearty."

MAPLE SUGAR MAKING.

EDITORS CO. GENT. AND CULT.—The production of Maple Sugar being of importance to the Northern man in these times of trouble, I wish to benefit the producer, by giving through your columns, my own experience of an improved arch for boiling sap in sheet-iron pans.

Three years since I was under the necessity of making a new arch, and not having stone that stand the fire well, I concluded to try a sheet-iron arch. I made a pattern out of wood one and one-quarter by one and one-half inches, three feet three inches long, and one foot six inches high, and had three castings made after the pattern, which I call frames.

I took my three frames to the tin and sheet-iron manufacturer, for the rest of the material and his help. We placed the frames far enough apart for the edges of the pans to rest on the frames, the edges of two pans resting on the middle frame. For the sides we took a piece of sheet-iron 20 inches wide, and bolted it on, turning over on the top of the arch about two inches, and let it project in front of the frame five inches, and in rear of the hinder frame eight inches at the top, and less at the bottom, in the form of an acute angle. We then took a piece of sheet-iron eight inches wide, rolled a heavy wire in one side three feet three inches long, which is the width of the arch, laid it across on the front frame with the wire side out, turned the ends down on the sides of the arch, and bolted it with the upper bolt in the frame. We then took another piece of sheet-iron five and one-half inches wide, laid it on the middle frame, and bolted the same as the other. For the back part we took sheet-iron large enough to reach across on the rear frame, and ten inches wide on top, and to bend over the acute angles of the sides down to the ground; bolted it to the back frame in the same manner as the other pieces were bolted on the other frames, also bolted to the sheet-iron sides with small bolts. In this last piece two places were fixed in rear of the frame, on which to set two stove pipes. For the door I will give you an improvement on mine. Take sheet-iron of sufficient width to be twelve inches when finished, roll heavy wires in each side, hang it to the piece on the top of the arch in front, by strips of sheet-iron around the wire in the front piece, and rivet it to the door, and the arch is done. The door opens by raising it with a poker and laying it back against the pan on the top, and when let back the poker should be kept under it, to keep it from slamming. The door should be long enough to turn around on the sides of the arch about two inches, which will keep the blaze and smoke from flashing out at the ends of the door.

I place my arch in the open air, and after it is leveled I fill in stone and dirt under the rear pan to within four or five inches of the pan, leaving a jog in front on which to rest the back end of the wood. I place dirt up to the arch around the outside, and it works equal to any stove. Let the wind blow high or low, there is no trouble, no loss of heat, no deep drawn sighs nor shedding of tears on account of smoke.

As to fuel, my testimony is that I now can boil the same quantity of sap with one-third less fuel than I ever used in an arch before, while some of my neighbors who have this kind of arch, say they do not use over one-half as much as they did in the common arch. The cost of an arch for a double and a single sheet pan is about $10, and for two double sheet pans a little more—the only difference being the quantity of sheet-iron for the sides; while the cost for an arch for one double sheet pan is considerable less, as it requires only two cast frames. The arch, being put together with bolts, can be taken apart in a few minutes, and then it can be stored away in a very small place. After the sugar season is over, I take warm lard and brush or rub the arch over on the outside, which prevents the rust from injuring the iron, which if properly taken care of will last a long time. CHARLES GRIFFIN.

Stamford, Delaware Co., N. Y.

CULTURE OF HEMP.

MESSRS. EDITORS.—I wish to renew an inquiry which I made in the Co. GENT. of Oct. 30, 1862, and to which no answer has been given, in regard to the cultivation of Hemp and preparing it for market. If any one has noticed the quoted prices of hemp, they will observe that its market value is now more than double what it was before the war begun. Since my inquiry was made, it has advanced $75 per ton, and it seems to me that it ought to be a good paying crop at present prices, and while cotton is so very dear. What I most wish to know is, the method of preparing it for market, and where to procure seed. J. C. A.

Butler Co., Iowa, Jan. 12, 1863.

We are unable to give our our correspondent much information from our own personal experience in the cultivation of hemp. A number in this region have undertaken it and afterwards given it up; probably in part from a want of knowledge of its proper management. In Kentucky, Illinois and other Western States, it has been extensively and successfully cultivated for its fibre; and in the more Northern and Eastern States for its seed. A soil rich in vegetable matter is generally thought best; perhaps a firmer soil may be more suited to the raising of seed. Doubtless any good land that will raise fifty or sixty bushels of corn per acre will produce a good crop of hemp. The seed may probably be had of J. M. Thorburn, New York, and at the Cincinnati seed stores. It should be fresh, bright, and sound and not over a year old. For sowing broadcast for the fibre, a bushel and a half is enough for an acre. The time should be rather early in spring. It is both harrowed and plowed in—the latter may bury it too deep; a seed-drill would doubtless be best; and experiments to determine the best depth for growing would be valuable. It is usually fit to cut towards the end of summer; its maturity is indicated by the leaves beginning to turn yellow. If the crop is moderate, it may be cut with a stiff cradle; but better, and especially if the crop be heavy, with a short stiff scythe. To save material it should be cut as close to the ground as possible. Pulling up by the roots was formerly most common, but cutting is now generally preferred, as the roots are inconvenient to manage, and serve to enrich the ground. After cutting, it is bound when dry and placed in stacks or ricks. It is spread for rotting, like flax, on grass land—several weeks are required. A portion for early winter dressing should be rotted in autumn; but winter rotting at a lower temperature leaves the hemp brighter and of finer appearance. If not sufficiently rotted, it is harsh; if too much so, its strength is gone; the precise time may be determined by examination, the fibre separating freely from the stalk in the middle, but remaining attached at the joints. It is then gathered and placed without binding in shocks, about the size of large corn shocks, placing them very even so as not to fall down. They should be left open at the top till that part is dry, and then drawn together with a band to exclude rain. The fibre is separated from the stalks by a process similar to that by which flax was formerly obtained by hand or by means of breaking and scutching—the break being larger and coarser than for flax. Water-rotting, by placing the hemp in large vats, effects the process in ten days or two weeks, and is preferred on some accounts. The vats should be very large and under shelter. Broadcast sowing is usually preferred in raising hemp for the fibre; but drills three feet apart, admitting once cultivating with a horse, would probably give a better crop and leave the ground in finer condition.

We are unable to give much information relative to raising the seed. Some prefer planting it in hills like corn, and thinning out so as to leave but two stalks to a hill,—the staminate plants, which may be easily known when in flower, being cut out.

The old rule for determining the amount per acre, was to estimate a hundred pounds for every foot in height; thus, a crop six feet high would afford six hundred pounds of hemp per acre; seven feet, seven hundred pounds, &c.

The information we have here given is doubtless defective in many particulars; we offer it with the hope of calling out something more valuable from practical cultivators.

* * *

THE CULTURE OF BARLEY.

Will you please publish an article on the cultivation of barley—how the ground should be prepared, the time of sowing, and the best kind of seed? I have never raised barley, and think I will try some this year—say how much seed per acre? M. V. B. B.

Barley wants a good soil—the bad success of many cultivators of late years, or as it is commonly termed the deterioration of the crop, is owing to a deficiency in this respect. Exhausted or poor land will not answer, and the soil must be in a state of fine pulverization. It should be sown very early in the spring, provided the ground can be well prepared. Sometimes late autumn plowing, with the use of the horse-cultivator in the spring, has been found to succeed well on dry soils. The two-rowed barley is generally preferred in this country, standing better, and ripening at a more convenient period, than the six-rowed variety. Many good farmers sow three bushels per acre, but if planted with a seed-drill two bushels would be sufficient; because this instrument will deposit the seed at a uniform depth, and none will be wasted, while harrowing buries a portion of it too deep, and some too shallow. The right depth is an inch to an inch and a half—if over two inches deep, it is longer coming up, and grows more feebly, according to experiments to determine this point.

Barley should be cut when ripe enough to prevent shrinking, but not over-ripe, which would cause waste. It may be cut with a cradle or reaper, and placed in cocks like hay. To prevent injury by rain, throw the heads towards the middle of the cock, the straw pointing outwards, and of such a size that the middle will be always the highest. In thrashing barley, in order to clear the grains of the short beard, it was formerly the common practice to give it a second pounding with a flail; but now the same end is accomplished by passing it a second time through the thrashing machine.

As we prefer feeding barley to having it manufactured into liquor, we have usually had it ground to feed to horses; two quarts of the ground-meal at a feeding, we think much better than four quarts of oats. The meal also makes an excellent feed for pigs.

Barley is a good crop to follow corn; if the latter has been well enriched with fresh manure, it will be just right for the barley—otherwise the ground should have a special application of fine manure, well broken and harrowed in. Wheat may follow the barley, if the ground receives a top-dressing of fine manure in autumn, before or after the wheat is sown. Or, if the barley is sown rather thinly, it is a good crop to seed down with clover.

[For the Country Gentleman and Cultivator.]

A Few Remarks on the Application of Manure.

Messrs. Editors—Decomposed manure should (as a general rule,) be applied to the surface of plowed land, and immediately incorporated with the soil with the harrow. If grass or sward land is to be top-dressed in autumn, it should be done before the ground freezes, that the nutritive properties of the manure may be carried down by the rain, and the grass shelter the manure and prevent evaporation. By top-dressing on side hills without incorporating the manure with the soil, a great portion of the strength of the manure may be washed down hill by heavy rains.

Undecomposed manure will not as readily impart its nutritive properties to the soil or crops, as decomposed. If undecomposed manure is used, apply it in the spring for a hoed crop. Spread evenly and plow in, and harrow immediately, and plant before the manure begins to ferment, and your crop will receive the benefit of the fertilizing properties of the manure, rising in the form of gas produced from the fermentation of the manure. I would not advocate plowing in unfermented manure any deeper than necessary to prevent it from being brought to the surface by the harrow.

If manure is to be applied in autumn, it should be well sheltered from sun and rain during the spring and summer, that it may not lose its strength by evaporation or be drenched with water. I would not advocate the use of unfermented manure for a spring grain crop, but the year after its application to a hoed crop the land will be in fine order for spring wheat or barley, and the land may then be seeded with grass seed with the grain, for meadow.

I well recollect that some years since, when Judge Buel edited the Albany Cultivator, there was a lengthy discussion among the correspondents of The Cultivator relative to the best manner of applying manure. The Judge, becoming impatient, finally said—"Get it out—get it out in some shape," and so thought your humble servant. M. M. Howard.

Lyn, C. W., Jan. 24, 1863.

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[For the Country Gentleman and Cultivator.]

Products of Five and a Half Acres.

Messrs. Tucker & Son—At a meeting of the Glen Cove Farmers' Club on Tuesday last, the following statement was laid before the meeting and ordered on the minutes:

Statement of Crop raised on the Farm of Daniel Smith, by Charles and Ambrose Waldron.—The ground was tilled for half the product—the labor all to be performed, except manuring and plowing the land previous to seeding, by the Waldrons. Work commenced March 20, 1862. Crop gathered and sold:

Onions, 2,582 baskets, which gave when sold,—

Loose onions,	221 barrels.
And	40,119 ropes.
Carrots,	407 bbls.
Turnips,	68 bbls.
Onion seed,	150 lbs.
Carrot seed,	8 lbs.
Turnip seed,	7 lbs.

Besides bunching their own onions they have bunched for Mr. Smith, of other onions raised on the farm, 27,858—add their own 40,119—67,977 in all—the bunching done since gathering the crops, and all finished and completed on the 16th Jan. 1863, and accomplished within ten months from the commencement.

The ground tilled was about five and a half acres. If any Connecticut or Rhode Island boys can beat this, let us hear from them, as we expect to try again this year.

The statement I hand you is for the product sold. The ropes averaged about 4c. The loose, in barrels, from $2.25 to $3 per barrel. R. M. Bowne, *Secretary F. C.*

Glen Cove, Jan. 21, 1863.

[For the Country Gentleman and Cultivator.]

Cheese Making---Product per Cow.

Messrs. Luther Tucker & Son—I presume some of your readers will expect some account from me touching my experiments in Cheese making. The past season has not been so favorable for dairying generally as that of the preceding year, yet my dairy has produced 412 pounds and a fraction over per cow.

Referring to my former communications, and particularly vol. 19, page 127, of the Country Gentleman, I have to say that I continue to salt my curd in the whey, as therein stated, and am thoroughly convinced that it is the right way to make a cheese. If any of your readers have given it a faithful trial and have abandoned the process, I should be glad to hear their reasons.

The cheese from which I send you a piece, was made on the 12th of September. It had the cream which rose during the night skimmed off in the morning, and is what is called a half-cream cheese. I hardly think you will call it a skimmed cheese. D. *Oneida Co., N. Y.*

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[For the Country Gentleman and Cultivator.]

DAIRYING EAST AND WEST.

Messrs. Editors—I have read with much interest the communication from Hiram Walker, on Dairying. While I agree with him in many things, there are others I do not. It seems beyond a doubt, that dairying will continue a paying business so long as bread is made from wheat or other grains.

Is it possible to confine it to a district or county for a great length of time? Dairying in England, in many counties, was carried on with great profit; but after a time they found that the milk lacked the requisites for butter and cheese.

There are many dairy farmers in Northern New-York that cannot keep more than two-thirds as many cows as they could six or eight years ago, and they do not make as many pounds of butter and cheese per cow as they did then.

"The Prairie States are better adapted to raising the cereals than anything else." The land here is not too rich to raise good grass, and the grass produces a good flow of milk. I have seen—and others say the same—*fifty pounds of cheese made from as many gallons of milk*, and I have yet to learn that they do better than that in the dairy regions of New-York. Many farmers here are turning from grain-raising to dairying, and are making money by so doing.

I have in my yard four cows that were well kept in Oswego Co., on a good farm, for three years. These cows give a fourth more milk, and carry more flesh than they did in that dairy county.

"The new States of the West cannot compete with us for want of adaptation of soil and climate." This does not seem to be the case, with those who have tried the experiment. As for market there is not much difference. The cheese, in Chicago and New-York markets, is quoted about the same, but with grain it is far different.

"No branch of agriculture is so well calculated to enrich the soil as this." It will not be an easy matter to convince wool-growers, pork-raisers, and cattle-feeders, that their lands are not being enriched faster than the land used for dairying.

Much of the land about New-York city, has been sapped of its milk, and the owners are turning their attention to raising wool and fattening steers, and by so doing are renewing their lands. W. M.

Du Page Co., Ill.

[For the Country Gentleman and Cultivator.]

LETTER FROM IOWA.

The Iowa State Ag. Society

Held its annual meeting at Desmoines, Jan. 14 and 15. Hon. Geo. G. Wright of Van Buren Co., was elected President; Hon. Peter Melendy of Black Hawk Co., Vice-President; Dr. Shaffer of Fairfield, Jefferson Co., Secretary; Edwin Smith of Davenport, Scott Co., Treasurer.

The annual Fair is to held at Dubuque, beginning Sept. 15. The last Fair was held at Dubuque, and proved quite successful, leaving a balance in the treasury of about $700, after all debts and premiums are paid. Our State has always practiced holding the Fair two years in one place, and then changing to another part of the State. The Society have no law to this effect, only practice. I think it a good one, when the town or county in which it is held, will do the fair and honorable thing by the Society; otherwise one year at such a place is enough.

In the evening we had an interesting discussion on sheep, and on crops, &c. Sheep are very healthy and profitable here in our dry prairie land and climate. We were told by men of experience, that wool is raised in Iowa at a cost of 25 cents per pound, or less. The number of sheep is rapidly increasing in this State. They are now valued at $3 to $4, and many fine bloods higher.

Field Crops.—Mr. Lyman of Polk county, keeps *farm accounts;* his corn this year produced 75 bushels per acre, and cost him 10 cents per bushel. He lives five miles from Des Moines, where corn sells at 12½ to 15 cts. Twenty bushels of corn will raise and fatten a two hundred hog, and the market value of that pork is $6 to $6.50 at Des Moines. Winter wheat cost 35 cents per bushel—market value 60 cents. Spring wheat cost 50 cents—market value 50 cents. Let me here remark that winter wheat was a success last winter, owing to a good covering of snow. Spring wheat has proved more successful in this State, taking the average of seasons for several years past; yet in earlier times here we were successful with winter wheat. It may change for better again. Considerable winter wheat was sown last fall, which is yet alive, although the winter thus far has been very open and warm. Corn is more profitable than wheat, when fed to stock, and stock more profitable than grain.

The Iowa Agricultural College.

The fifth annual meeting of the Board of Trustees was held at Des Moines, Jan. 16, 17. We have no school or college building yet. We have a beautiful farm of 648 acres in Story Co., with the Chicago, Iowa and Nebraska railroad, now in running order, within 40 miles east of it, and in one or two years will probably pass the farm. We have donated for the purpose of putting up a college building, about 4,000 acres of land, and in county bonds and subscriptions, about $11,000, and with $10,000 of money from the State, we might put up a suitable building to open the college in.

The important business of this meeting of our trustees was to receive the report of Mr. Melendy, the commissioner, who has been out selecting the government lands donated last summer to the States, for the endowment of agricultural colleges. Iowa is fortunate above most of the States in having government lands to select from; and being foremost in the field our commissioner reported good selections, mostly in Fort Dodge and Sioux City, land districts in the northwest quarter of the State. Our report of these lands, about 200,000 acres, will be published in pamphlet form, probably ready for delivery in April, and emigrants, and any one seeking information of the country and government lands in Iowa, will please address our Secretary, Hon. Wm. D. Willson, at Des Moines. The report is a valuable and interesting one, containing description of the face of the country, growth of vegetation, timber, water, stone, coal, gypsum, animals, birds, &c. The quantity of government lands unsold in our State at this time is about 6,000,000 acres. Let me here say that by the act of Congress donating these college lands to all the States, no State can select lands in another, but the assignees of the *land scrip*, which they will be entitled to in place of her quantity of lands, can select the government lands wherever they can find them.

Muscatine, Jan. 19. SUEL FOSTER.

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A GOOD STEER.

Messrs. Tucker & Son—Mr. Henry Baker of this town, recently slaughtered a very remarkable animal of the bovine genus, which I think is entitled to a record in your valuable paper, for future reference. Mr. Baker is a very thorough and practical farmer, and has cheerfully furnished me with the following facts relative to his "big bull calf," as he called him.* Pedigree, high-grade Durham; age, twenty-one months and fifteen days:

Weight of one hind-quarter,	270	539	lbs.
other hind-quarter,	269		
one fore quarter,	236	472	"
other fore-quarter,	236		
Weight of hide,		135	"
Rough tallow,		106	"
Total Dressed Weight,		1,252	"
Live Weight,		1,720	"

Price of beef here, six dollars per hundred pounds. For rapid growth, and early maturity, the above statement beats anything I have seen recorded. Vermont may yet be as celebrated for cattle as she now is for horses and sheep. S. D. Walbridge. *North Bennington, Jan.* 12.

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Farmers should Keep Bees.

Messrs. Editors—Farmers are not aware of the loss they sustain, from neglecting to avail themselves of the skill of the honey bee, to gather the sweets so profusely scattered around them. A trifling expense and little attention, more than compensated by the pleasure imparted, might secure to every farmer some hundred or hundreds of pounds of one of our most delicious sweets. The course to be pursued is a very simple and easy one. Not to follow the course of former times, and strive to secure the greatest number of swarms possible, until the bee pasture is so overstocked that hardly a swarm can accumulate more stores than is required for wintering, and killing off the light swarms, securing a mixture of honey, dry or mouldy comb, bee bread, and murdered bees. But let him procure or make a hive or hives, by the use of which he can secure the extra honey in neat boxes for preserving, unmixed with brood or bee bread; and in which they will store a portion of the fruits of their earliest labors. And of the character of the hives offered for public use, let him compare and judge for himself; duly estimating all the advantages secured, and difficulties to be encountered by each. Then let him take one, two, three or more hives to some friend, who for a fair price will put a good swarm in each, in good season; and he may have a hundred and fifty pounds of box-honey, early made the first season, and double that the second season, from three swarms, if the seasons are good honey seasons.

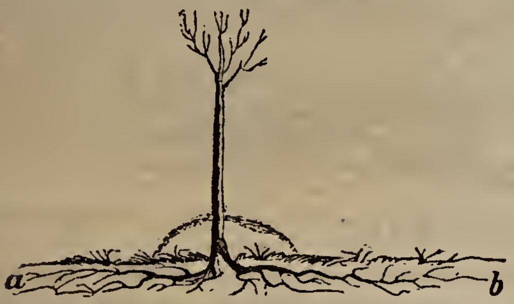
He must not listen to the superstitious notion that there is no luck with bees purchased by the owner; and he must wait until he accidentally finds a swarm, and hurriedly place it in some old salt box, so small that it will be obliged to swarm two or three times the first year, having four swarms with no honey; keeping on increasing his swarms, which actually afford him little more honey than could be gathered from so many humble-bees' nests. In the exercise of common discretion, care, and trifling expense, the farmer may add abundant sweets to his substantial healthful fare.

If this matter was duly appreciated, farmers would almost as soon think of doing without their herd of cows as their bees. And more profit may be made from three swarms of bees than from three cows, after deducting expense of purchase and labor bestowed upon each.

We would rather see every farmer's family richly supplied with this, and some to part with, to help him to a little ready change, than to see one apiarian with his hundreds of swarms, gathering the sweet stores from all the farms around. But if they will not do it, better that he should do it than that the sweets be lost. J. H.

THE LENGTH OF TREE ROOTS.

We have had occasion before to speak of the great distance to which the roots of trees extend in the soil, and which is very imperfectly understood by most planters. It may be laid down as a general rule that the roots extend in each direction from the foot of the tree as far as its whole height, and in many instances much farther. We see proofs of this fact where such trees as the locust and silver poplar throw up suckers at great distances from the trunk. The nurseryman who passes between his rows of saleable trees is not often aware that the whole surface of the ground beneath his feet is covered with a network of roots, often extending the breadth of two or three rows. When he digs the trees by placing the spade a foot from the stem, he does not know that he cuts off and leaves nine-tenths of the fibres in the ground. The planter who sets them out supposes that for several years the roots only occupy a small circle, which he may spade and enrich, and thus afford them all the cultivation that is necessary. Usually, in such cases, the roots have gone far beyond the outer bounds of his work. The annexed figure will show the condition of the case, *a* and *b* being the outside of the circle of roots in diameter twice the height of the tree. The importance of what is now termed broadcast cultivation, required for the benefit of all the roots, is becoming better understood. But the benefits of thin planting have been much less examined. There are instances, it is true, as on the western prairies, and other places exposed to the high winds, where the shelter of thickly planted trees is an important benefit while the trees are young; but in all other cases the injury from the crowding of the roots ultimately becomes a serious evil. It is too common an error to suppose that if the branches of trees have light and air enough, nothing further need be apprehended. But the facts already stated show that the tops may be far from meeting, and yet the roots may long since have become interlaced. Most would suppose that these remarks could not apply to dwarf pears, the roots of which are usually believed to be very short. We have, however, ascertained by examination that dwarfs do not form an exception, and that the roots of dwarf pears the second year from transplanting, and four or five feet high, have already made a circle of roots from seven to eight feet in diameter. Dwarf pear orchards, set eight feet apart, when well cultivated and pruned, have interfered even at the tops. More room for the roots should certainly be given. In a recent conversation with a very successful cultivator of grapes in vineyards, who has planted his vines twelve feet apart, he expressed a decided opinion in favor of greater distance, if the finest fruit and enduring and vigorous vines are an object.



In all cases, therefore, where land is not very high priced or limited, plenty of room for all fruit should be allowed; but where land is scarce, closer planting may be admitted, with a view of thinning out, or manuring and replanting, as the case may require, when the trees become old or stunted.

For windy localities perhaps the same course may be pursued, but where a tall screen of trees can be provided, at a distance from the orchard so great that neither spade nor roots could affect it, the result would doubtless be better.

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[For the Country Gentleman and Cultivator.]

FRUIT PLANTING IN WINTER.

Luther Tucker & Son—We are having a remarkably mild and open spell of weather at this time. Some farmers are improving the opportunity to forward their spring work by plowing, ditching, and preparing the soil so as to be ready for planting without much delay at the proper time. Others are removing and setting out fruit and ornamental trees, while the sap is dormant and the earth is mellow and moist to receive the roots, which will become settled and bedded, ready for an early start in the spring.

We planted, last week, several acres of apple trees, forty feet apart; then a row each way between them with the Kentish or Early Richmond Cherry, at twenty feet apart; then a row of early blackberries along each row, and between them, at ten feet apart, with the intention of putting strawberries along each row of blackberries, and between them, at five feet apart. As the greatest draught upon the moisture and nourishment in the ground is at the time the fruit is ripening, several varieties perfecting their fruit at different periods, yet following in regular succession, may be mingled together on the same ground more profitably than to appropriate a separate piece of land to each. Strawberries are the earliest to ripen their fruit, cherries follow soon after, yet precede the blackberries, which, in their turn, give way in time for the apples to have the full benefit of the rains at the time of ripening their fruit. William Parry.

Cinnaminson, N. J.. 1st mo. 26th, 1863.

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Washing Machines and Wringers.

Please state (or ask others to) what washing machine and clothes wringer you (or they) think best for family use—the cost of each or either, and the makers. A large number of the *best* washing machines could be sold in Baltimore or Washington City if kept on sale there.

Croom, Md. A SUBSCRIBER.

Tho are several good washing machines. Where the housekeeper can superintend her own work we like the Union washing machine best. For an unskillful washerwoman, who will take no care, the Metropolitan is simplest and best, being an improved pounding barrel. The Nonpareil, and some other machines, have also a good reputation. The Universal clothes-wringer, which is furnished with cog-wheels or gearing, appears to be best and most efficient, leaving the clothes much drier than those machines which have no gearing. The prices of the washing machines are not far from $10 each, and the wringer a little less. We cannot give the manufacturers' address, but our correspondent will find most of them in back volumes of this journal, in the advertising columns.

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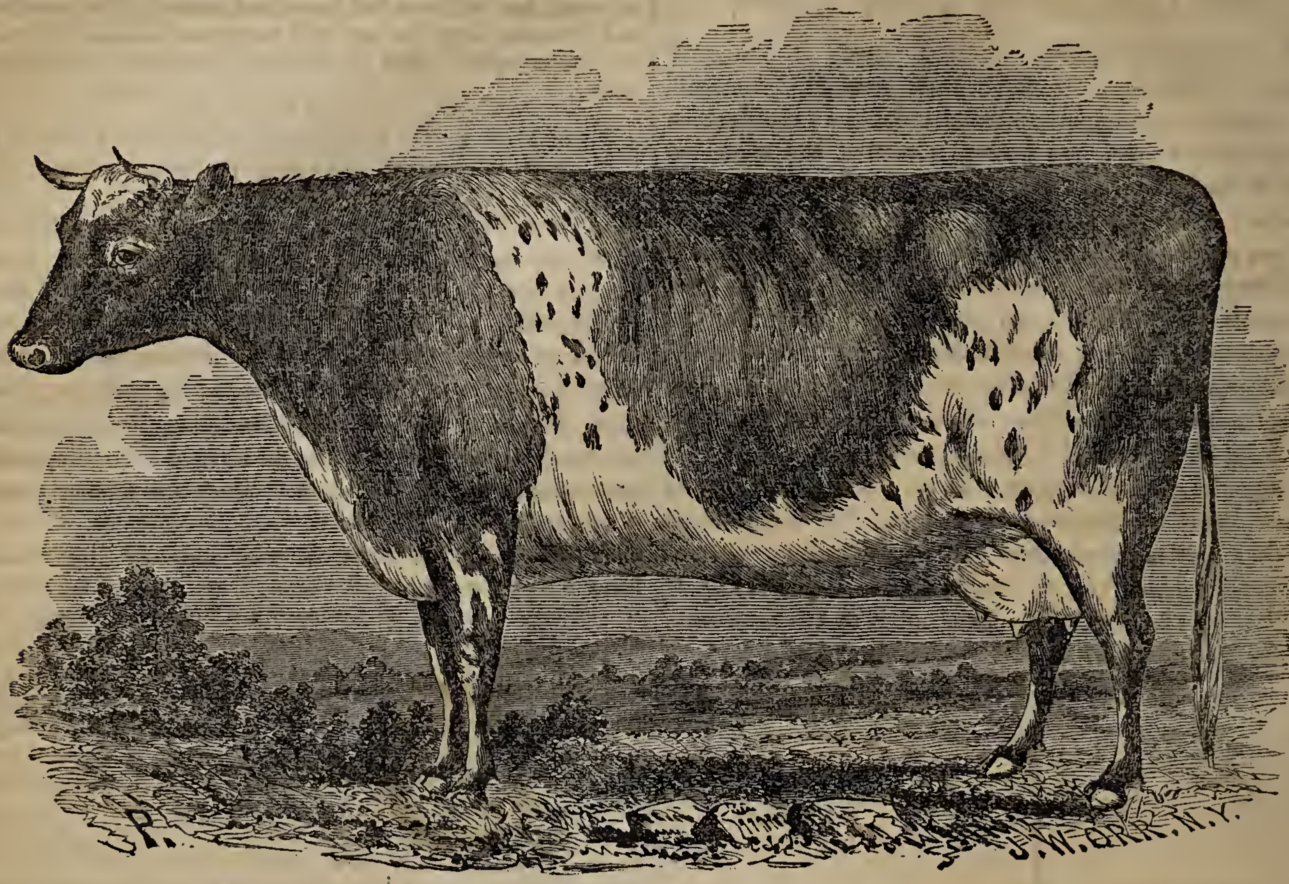
THE JERSEY HOG SCALDER.

Are you acquainted with the Jorsey hog scalder? It has been prominently used in Monmouth and Burlington counties for more than twenty years, and now all over the State, but not (as far as I know) in a single instance west of the Delaware. I think that is its proper name. They save considerable of both fuel and labor. I helped use one a day or two since which was about twenty years old, and workod as good as new. It was hired enough the first two winters, at 50 cents per day, to pay for itself, and I suppose has been used by nearly twenty persons each winter since.

The trough is made of two inch plank, well clamped with iron, and the fire is placed in a copper pipe, which goe through or around the bottom. If you have not seen it, and would like a more particular description, I will try to write one. G. H.



AYRSHIRE COW LADY AYR."

Imported by Hungerford & Brodie, and the property of Brodie, Campbell & Co., New-York Mills, Oneida Co., N. Y. Lady Ayr was calved in May, 1853. Her dam is from the prize cow at Girvan in 1839, and her gr. g. g. grand dam is placed in the condensed sheet of Pedigree for the year 1799. Sire was bred by Mr. Reed; he was out of Mr. Thomas McCreath's cow—grand sire was bred by Mr. Mickle; he won the first prize at Tarbolton and at the Lismon Cattle Show in Ireland, and was sold to the Duke of Devonshire. Gr. g. sire "Jock the Laird." Lady Ayr won the first prize at Ayr in the spring of 1854; also the first prize at the New-York State Fair the same year; also the first prize at the New-York State Fair in 1855, and the same year she won the first prize at the National Show at Boston, as a two year old; also won the first prize at the New-York State Fair in 1858, as an aged cow; also one of the herd that won the first prize at the National Show at Chicago in 1859; also one of the herd that won the first prize at St. Louis the same year; also one of the herd that won the first prize at the National Show at Cincinnati in 1860.

The Best Time to Feed Grain to Sheep.

Many farmers contend that there is really no advantage in feeding at one time more than another. But those who have been accustomed to feed sheep grain, and who have observed their movements, will agree with me, that *morning* is *not* as good as noon or evening, for feeding grain.

There are several good and philosophical reasons in favor of feeding grain, roots, or apples, to sheep, at the noon, rather than in the morning or at evening. We will state a few of them.

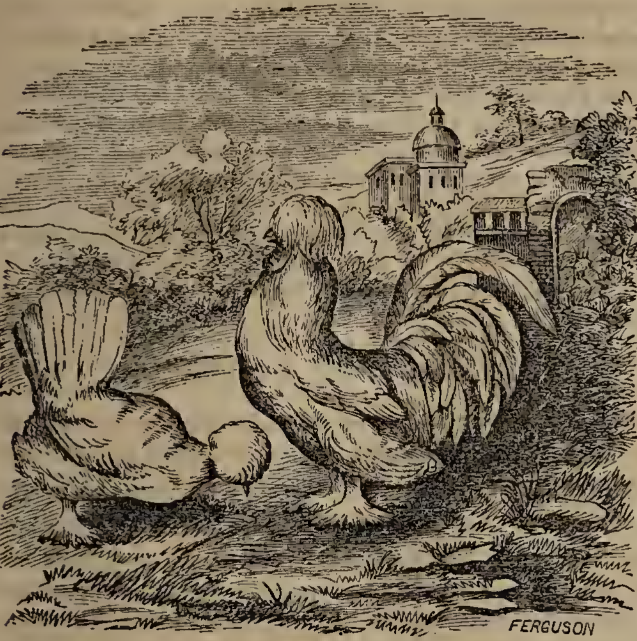
1st. If grain be fed in the morning, before the sheep have taken their feeding of hay or cornstalks, there is such a rush of the stronger ones, that the weaker sheep do not usually get their proportion, while those that do not need as much as some others, swallow, unmasticated, more than their allowance. But, by feeding the grain about noon, the sheep get their appetites partially satisfied, and the weaker ones become more inclined to stand up for their rights at the trough, whereas, in the morning, they are often not much inclined to move.

2d. Another reason why noon is better than morning for feeding grain or roots, is, sheep need to be fed often, and but little at a time. Every good shepherd will agree with me in this. If their hay or cornstalks be fed in the morning, without grain, they will be more likely to eat it all clean; whereas, if they get a feeding of grain or of roots, their appetites are partially satisfied, and they will select the most choice portions of their fodder, and leave the coarsest parts, which will never be eaten. But, by requiring them to eat their coarser fodder first, and the dainties afterwards, fodder will be consumed more economically than if the grain were fed first.

3d. Another plausible reason for feeding grain at noon is, the grain will be mingled more thoroughly in the stomachs of the animals, with the coarse fodder which they have eaten; and therefore when their cuds rise, every portion of their food becomes more thoroughly masticated; consequently more nutriment will be extracted from a given amount of food.

On the contrary, if grain be fed when their stomachs are nearly empty, it will be more liable to remain in one mass at one side of the stomach, than it otherwise would were it eaten after the stomach had been partly filled with hay, straw or cornstalks.

When we feed unground Indian corn to neat cattle, for example, many of the kernels will settle to the lower side of the stomachs, and will never rise with the cuds, and consequently, will pass through the animals undigested. And I have never been able to perceive why this theory will not hold equally good with sheep as with other ruminating animals. I believe, however, that it is universally admitted that no grain will pass through sheep undigested. But, notwithstanding this admitted fact, it cannot be denied, that it will be better to have the grain mingled with other food, than to feed it separately. S. Edwards Todd.



[For the Country Gentleman and Cultivator.]

SERAI TAVOK FOWLS.

The fowls which our cut illustrates were first imported into England about eight years ago; they are said to partake of the character of the Polish fowls in their chief characteristics, in compactness of form and good laying qualities. They were first imported by Miss E. Watts, formerly editress of the Poultry Chronicle, from Constantinople, in 1854. We will let her tell her own story: "They arrived in January, in a steamer chiefly manned by Turks. The voyage had been long and rough, and the poor fowls so rolled over and glued into one mass with filth were never seen. Months afterwards, with the aid of one of the first fanciers in the country, we spent an hour in trying to ascertain whether the feathers of the cock were white or striped, and almost concluded that the last was the true state of the case, although they had been described by our friends as *bellissimi galli bianchi*.

"I at once saw enough to make me unwilling to be entirely dependant for the breed on the one sad looking gentleman, with his tuft heavy with dirt, dirt for a mantle, and his long clogged tail hanging round on one side. I wrote directly for another importation, especially for a cock, and to ask for the name they had at home. In answer to the first request, I found that good fowls of the kind are difficult to get there; our friends have ever since been trying to get us two or three more, but cannot succeed, either in Constantinople or other parts of Turkey. With regard to the name, he told us they were called Serai Tavok. Serai, as is well known by every reader of eastern lore, is the name of the Sultan's palace. Tavok is Turkish for fowls; the simplest translation of this is *Sultan's fowls*, or *fowls of the Sultan*, a name which has the double advantage of being the nearest to be found to that by which they have been known in their own country from which they come.

"Time very soon restored the fowls to perfect health and partial cleanliness; but it was not until after the moulting season that they showed themselves as the *bellissimi galli bianchi* described by our Constantinople friend."

They are said to nearly resemble the white Polands, but with more abundant furnishing, and shorter legs, which are "vulture-hocked and feathered to the toes."

"In general habits," says Miss Watts, "they are brisk and happy tempered; but not kept in as the Cochin Chinas." They are reputed very good layers; their eggs are said to be large and white; they, like all the tribes of top-knot fowls are non-setters and small eaters. They are in size about that of the smallest of the so-called Polands. Their plumage is white and flowing; they have a full-sized, compact tuft on the head; are muffled, have a good flowing tail, short, well-feathered legs, and five toes upon each foot. The comb is merely two little points, and the wattles very small. Miss Watts says, "I have never seen fowls more fully decorated —*full* tail, abundant furnishing, in hackles almost touching the ground, boots, vulture hocks, beards, whiskers, and full round crests." As yet we are not aware of any of these fowls having reached this country.

Bennington Center, Jan., 1863. C. N. BEMENT.

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[For the Country Gentleman and Cultivator.]

Feed of Cows---Apples---Winter Cream.

Messrs. Editors—Mr. Wm. J. Pettee of Conn., gave a valuable article on this subject lately, (Co. Gent., Jan. 15. '63,) suggesting some further thoughts, which I take the liberty to write out for your journal. He endorses the statement of a previous writer, that "good bright corn-fodder and carrots" leave little to be desired in the way of cow feed, and adds that the milk of cows so fed is richer and of better quality than that obtained from those fed on other substances. I have never had much experience in feeding out carrots, but have got, and still succeed in getting, good rich milk from cows fed on corn-fodder and apples, a peck per day, with a salted mess of bran and kitchen slops in their place once or twice a week, to supply the need of saline, and to give variety to their food. Corn-fodder I think the best feed for cows in milk with which they can be supplied, though early cut clover hay is nearly as good, and better, perhaps, if it is desired to fatten them.

The value of apples for milk cows is not fully appreciated by farmers, or there would be less selling of this fruit for cider making at five or six cents per bushel at the mills. I think them worth ten cents, at least, for cows, pigs and other farm stock, and have fed a good many hundred bushels since I began farming.

Every one who has skimmed milk a single season knows that as the amount of milk given by cows in autumn decreases, the thickness of the cream over a pan of milk increases, and with good keeping for the cows, cream nearly half an inch thick often rises over two inches of milk, kept at a proper temperature. The cream is of a thicker consistency also, as those who wield the churn dash soon find out, but with proper management there is no particular need for protracted churnings. A certain temperature must be obtained, and the rest is mechanical manipulation —the breaking of the film of casein which holds the globule of butter. The milk is sometimes so rich that in very cold weather the striking of the stream of milk in the pail will produce a few grains of butter—a fact setting aside the notion that cream must always be soured before butter can be produced from it.

The method of fattening cows while in milk is worthy of more general practice. It will pay better than any other mode of disposing of old cows with which we are acquainted, particularly if they are to be sold. To dry off and fatten an old cow in the fall brings the beef into market at its lowest point of price as a usual thing, while by keeping them in milk through the winter, a high price is generally obtained for the butter, and beef is higher in the spring than at any other season. We have fattened cows in the fall for supplying our own beef barrel, but have never thought we could afford to do it for supplying others. J. H. B.

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Good Pig.—As you have published some "Pig Accounts," I send you one for publication. My neighbor, James Cummings, killed a pig last week, 9 months old, which dressed 255 lbs., which will do pretty well for a beginning. He has just commenced farming on his "own hook," and is a subscriber for The Cultivator. I intend to try my luck at raising pigs next summer.

Calhoun Co., Mich. T. W. B.

MAKING MANURE.

Messrs. Editors—I wish, as soon as you can, that you give in "The Cultivator," an extended and particular description of the best plan, and the cheapest or least troublesome, in your estimation, for increasing and saving manure. I have no muck, marsh, or anything of the kind on my place, but have straw in considerable quantities. C. S. LeBaron. *Saline, Mich.*

We suppose all that our correspondent desires, is the best way to manufacture manure or compost in the absence of muck or peat, so as to make the most of his animal matter. We take it for granted that he keeps animals, for without animal matter of some kind, manure cannot be made. The question is, how to make the most of it. The great point is to save by absorbents, all the liquid and soluble portions which would otherwise escape. These absorbents are to be applied daily to the yards and stables, as well as to the manure at a subsequent period. Nothing is more convenient for the yards and stables, than straw, and if used freely enough to prevent the escape of all liquid manure, a great deal may be worked up in a single winter. On the arrival of spring, different courses must be pursued, according to circumstances. Strawy manure will generally require a summer's rotting, to be fine enough to spread profitably; for if spread in lumps or flakes, and not finely intermixed, it will be of comparatively little use the same year. Let it therefore be thrown up into square piles early in spring, and if consisting very largely of straw, it should remain exposed to the rains and weather. The centre will decay thoroughly; the outside should then be trimmed off with the hay-knife, and thrown on the top. By autumn it will be in fine condition for top-dressing grass lands or prepared wheat grounds.

When the straw is not sufficient to retain all the manure, turf or loam is about as good as muck, for intermixing to make compost. It should, of course, be quite free from stone. To save the labor of carting the loam into the barnyard and out again, draw the manure out into or near the field where it is to be spread, and make the heaps there. If the soil is heavy, one-third or even one-quarter of loam will be enough; if lighter, more will be needed. Make the alternating layers of manure and soil as thin as practicable, to save the labor of intermixing afterwards. Heaps thus made of the coarsest manure in the spring, will be fine for spreading by autumn. Manure already fine in spring, may be applied to corn or other spring crops; but it must be broken fine with the harrow and well harrowed into the soil, before being turned in with a shallow plowing.

Manure made where litter is scarce, should be well sheltered before made into the compost heaps already described, or much of it will be washed away by rains.

Coarse or fibrous manure may be advantageously spread upon land in autumn or winter, to plow in for spring crops. If however, spread on meadow land, the coarse or strawy parts, left on the surface, after the manure is washed away from them, should be raked off with a spring-toothed horse-rake.

FERMENTING BONES.

The Irish Farmer's Gazette gives the following inquiry and answer on this subject:

A correspondent asks—If I put half a ton of bones, broken in 2 inch pieces, in the corner of a shed, heap clay, tan or turf mould on it, and form a hole in the top for pouring boiling water, will the bones dissolve, and how long will it take? Will the smell be very offensive, and will it induce dogs to tear them about? What weight of superphosphate will it make when dried out?"——The bones will ferment in the way proposed, but they will do better if mixed with the water, and ferment more equally if wet with it before covering with the clay than after. According to the state of the weather, &c., it may take from a fortnight to three weeks or a month to decompose them. The covering of earth will keep down the smell, but you must keep any cracks that may appear in the covering closed. If dogs have access to the heap, there will be some danger of their pulling the heap about. A ton of bones may make in this way 1½ tons, or something more.

CULTURE OF TOBACCO.

Messrs. Editors—I have been looking over some of the essays in your valuable paper, in regard to the cultivation of tobacco, and although they explain much, yet they leave out a great deal that a new hand would wish to know. Having raised but two small crops, and there being no one near of whom to make satisfactory inquiries, I wish to ask some of the old hands at raising, the cause and preventive of "*fat stem*," and also when the plant is *ripe*, so that it will make the best wrappers, for I find the longer it stays in the field, the *thicker* the leaves become. How long after topping?

I see in Connecticut they use twine to hang with, which is much more expensive than our manner. We use lath, not requiring half as many nails, and costing not half as much as the twine for once hanging, and will last for years, besides being more convenient to handle. Our laths are rived out of oak or hickory, and shaved with drawing knife to the proper size, 4 feet long, 1½ inches wide and half inch thick, one end sharpened to slip on a steel spear-head made like an Indian arrow head, about 5 or 6 inches long, and sharpened at the point for about an inch on each side; the other end of the stick is inserted into a hole morticed in a post conveniently, about breast high. Six or eight plants, according to size, are put on a stick, the stick running through the stock about three or four inches from the but. You can hang faster, the stock cures out faster, being split, and the smallest plant as well as the largest will go on the same stick, and the tobacco never falls, as it sometimes does with twine. Try it, brother farmers, and you will never use string again. E. M. S. *Twenty Mile Stand, O.*

WORN OUT LAND.

P. Hathaway, of Milan, O., writing to the Rural New-Yorker, on this subject, asks for facts bearing on the question, as to whether land can be really worn out or not. He says:

"Many years ago an observant and intelligent farmer was speaking to me about worn out land. I requested him to give me an example. After some thought he instanced a field of hard clay, naturally thin, which had been carelessly cultivated for years, and then lay in natural grass. Its vegetation was very scanty. Some rolling spots were bare, and it presented, especially in times of summer drouth, a very sterile appearance. Afterward that field changed owners. Its new manager was a thorough and energetic farmer, and it is now luxuriant in its vegetation, even to lodging and rankness."

Another farm is mentioned, one of the worn out plantations of Virginia. It contained 500 acres, and after running its owner hopelessly in debt, was sold at $1 per acre. Its new owner treated it with plaster and clover, and a small starting application of guano. In a few years it gave him twenty bushels of wheat per acre. "That this land was really worn out, as far as its first owner was concerned, I have no doubt," says Mr. H., "but considering how easily it was recuperated, was not the exhaustion more apparent than real?" The soil cannot be so easily worn out.

[For the Country Gentleman and Cultivator.]

What Can be Done with the Water-Ram.

Eds. Country Gentleman—I cannot help thinking that a description of the arrangement for supplying my premises with water will be interesting to some of your readers, and will state them as briefly as I can. A No. 5 Douglas' Hydraulic Ram—which from its size requires a considerable flow of water to operate it—forces the water from a spring situated in a meadow below and in front of my house at a distance of 800 or 1000 feet, up to the 3d story of the dwelling, requiring altogether an elevation from the ram of some 65 feet.

The reservoir into which the water is discharged, contains about 400 gallons, and is placed immediately below the floor of the 3d story, and supplies a bath tub and water closet in the 2d story, the kitchen below, and a summer kitchen and wash house, detached from the main dwelling about 50 feet. But the flow into this reservoir is so abundant and continuous, that an escape pipe is required to carry off and turn to account the overplus water, which is received by underground pipes, in a larger reservoir placed out of doors in a grove of forest trees and back of the dwelling. This reservoir is like a brewer's tank, and holds perhaps 2,500 gallons—is about 30 inches deep—is circular, and being banked up and sodded, presents a pleasing appearance filled with water clear as chrystal. From this a pipe supplies a water trough at the barn yard, as it is required for the cattle and horses.

In summer a gaily striped tent is stretched over this large tank, which, in addition to an inviting and picturesque effect, affords the youngsters especially a source of unceasing comfort and pleasure as a swimming place and bath. This tank supplies a grape-house also, which is no small consideration in the saving of labor, as by simply turning a cock a supply is drawn into a large tub and readily distributed to the plants.

But I must by no means omit to mention that this grand out-door tank is still farther obliged to contribute its aid in supplying the ice house, which is situated but a few feet from it, in the grove back of the house. This is effected by a very simple process. The tank is tapped at the bottom by a small lead pipe passing under ground, and entering the ice house close by the side of the door. By turning the cock during freezing weather and especially through the nights, a fine spray is jetted from the end of the pipe, which is closed and punctured with fine holes. The spray is thrown nearly to the top of the ice house, and falling in all directions upon the ice—for we by no means rely upon this for our supply of ice—it fills effectually all the interstices, and consolidates the mass so completely as to render it almost insoluble, which is of infinite comfort during summer; and as to economy of labor and space cannot be surpassed.

Now every one knows that a large household supplies a correspondingly great amount of debris and off-scouring, and of course there must be provision for the safe conduct of all this from the dwelling.

To effect this object perfectly, the drainage from bath-house, kitchen, wash house and water closet, passes off through 4 inch vitrified pipes, laid in cement, under ground, at such an inclination downward as to sweep into the discharge, which is simply an excavation in the earth at a corner of the vegetable garden. By this means every drop of dish-water, suds and refuse from closets, bath house and chambers, is turned into the best and most easily applied compost manure, far removed from all proximity of the senses, and goes far, if not entirely, to remunerate for the outlay, and I think the whole arrangement must satisfy the most exacting and fastidious as to economy, nicety and comfort to all concerned.

For all these comforts I am indebted, first, to Providence, for the glorious spring in front of my house; second, to the Messrs. Douglas for a first rate ram, and lastly to the skill of an unpretending country mechanic—a farmer and plumber combined. Although the quantity of lead pipe was considerable, owing to the distance of the ram from the dwelling and the various places to be supplied, the expense was not nearly so great as one would imagine, and especially while witnessing the result. Experience teaches us that a very great saving of expense can be effected by personal supervision, pre-arrangement and contract, and a degree of comfort and economy of labor is thus often secured which would require a greatly disproportioned amount of money to be thought an equivalent.

You have no doubt many subscribers who could turn equal advantages to equally good effect, if they only knew how, and if my experience will incite them to the effort I shall not regret having given it. J. B. Okie.

Edgewood, Del. Co., Pa., Jan. 12, 1863.

[For the Country Gentleman and Cultivator.]

Recipe for Brown Bread.

Scald two quarts, corn-meal, with new or skim milk or water, a small teacup molasses and a tablespoonful salt. When cold, stir in one quart unbolted rye or rye middlings. Bake in an iron kettle in a slow oven, three or four hours.

As the premium recipe you published from the Agriculturist, has proved a failure with all who have tried it in this vicinity, I send you the above, which makes as good brown bread as I have ever seen. The proportions are the same as published at the Patent Office for the "Boston Brown Bread," but the process less complicated, and bread quite as good. "No Premium." *Durham, Conn.*

[For the Country Gentleman and Cultivator.]

PREPARED FOOD FOR INFANTS.

Messrs. L. Tucker & Son—About eight years ago I received from the estimable lady of the Rev. Dr. Palmer, the following receipt. We have tried it thoroughly, and have raised four fine healthy boys by its means. Believing it to be just the thing for infants who are deprived of their mother's breasts, I send it to you, feeling that in so doing I am partially paying the debt which my wife and myself owe to Mrs. Doct. Palmer, and also convinced that by publishing it you will confer a favor on hundreds of your subscribers.

HUMANITY.

Recipe.

Gelatine, 5 grains.
Arrow Root, 25 grains.
Water, one and a half pints.

These quantities are always to be used. The milk and cream are to be increased by the age of the child.

For the first three months—Milk, 2 gills—cream, 1 gill.
From three to six months—Milk, 3 gills—cream, 1 gill.
From six to nine months—Milk, 1 pint—cream, 1½ gills.
From nine to twelve months—Milk, 1½ pints—cream, 2 gills.

If the child should be feeble, make the water one quart.

Directions for Preparing it.—Put one and a half pints of water in a sauce-pan over the fire, and dissolve the gelatine in it. When the water boils pour in the arrowroot, previously mixing with a gill of cold water. Let this boil five minutes, then add the milk; when that boils pour in the cream and remove it immediately from the fire. Sweeten it with loaf sugar, a little sweeter than cow's milk. The milk should come from *one good cow*, and the cream should not be more than three or four hours old. If the child is constipated use more cream; if otherwise, less should be used.

Two quarts of milk will furnish the cream necessary, and yet be good for family use.

Be careful to measure out the required amount of milk while it is new, and set it by itself. In cold weather, if you take milk of the milk-man, make it blood warm before setting it away, else it will be difficult to get the cream in the specified time. *Albany, Jan.* 30, 1863.

NEW-YORK STATE AG. SOCIETY.

Winter Meeting.

The Annual Meeting of the New-York State Agricultural Society took place at the Assembly Chamber, in this city, Feb. 11th, in pursuance of notice. The chair was taken by the President, Hon. Ezra Cornell, at 12 o'clock. The Report of the Treasurer, Luther H. Tucker, was then read as follows:

RECEIPTS.

Cash on hand per last account,		$142.69
Memberships at Annual Meeting,		37.00
Life Memberships, during the year,		250.00
Annual Membership, during the year,		1.00
Donation from Hon. Zadock Pratt,		50.00
Volumes Transactions sold,		18.00
Avails of Note discounted May 10,		728.58
do. do. do. May 24,		730.30
State Appropriation, Dr. Fitch, State Entomologist,		1,000.00
do. do. for State Agricultural Society,		840.00
do do. Flax Machinery Premiums,		2,000.00
Receipts at Rochester Fair:		
Entries, tickets sold, &c.,	$10.817.45	
Rent of grounds,	375.00	
Life Memberships,	79.00	
		11,271.45
Hon. E. Cornell, services Arabian Horse, 1863,		100.00
		$17,169.02

DISBURSEMENTS.

For Premlums at Winter Meeting,	$219.73
For Premiums, &c., due on account of previous years,	534.68
Library and Museum expenses,	82.75
Salary of Dr. Fitch, State Entomologist,	1,000.00
Salaries and travelling expenses,	2,823.88
Incidental expenses,	101.17
Postage account,	126.95
Loan account,	1,500.00
Printing and Stationary,	386.13
Premiums and premium expenses Rochester Fair,	4,486.77
Expenses Rochester Fair,	2,092.90
	$13,354.96
Cash on hand, including the still unexpended State Appropriation of $2,000 for Premiums on Flax Machinery,	3,814.06
	$17,169.02

The Report of the Executive Committee followed, from the Secretary, Col. Johnson, reviewing the operations of the Society, and the progress of our agriculture during the closing year. Increased attention to Machinery has been a marked feature during the past year, and has been of important assistance in enabling us to till our farms while so many have been withdrawn from them for the defence of their country. The Wool Crop of the State has attracted increased attention under the stimulus of the lack of cotton and the requirements of the public service. This was illustrated in the exhibition of Sheep at the Rochester Fair, which was superior to that of any previous year. Caution, however, is required, to prevent the occurrence of undue excitement in a speculative way, leading hereafter to a reaction of such disastrous consequences, as the country has once before experienced. Flax Culture has also become a matter of great importance, and the efforts to secure new mechanical means of rendering the fiber available for the requirements of the manufacturer, have been the subject of scrutiny on the part of the Committee, under an appropriation made by the last Legislature. The reports on this subject, prepared after careful and thorough examination by Messrs. Samuel Campbell, J. Stanton Gould, and A. Wild, show that the desired end, although as yet unattained, is not to be regarded as impracticable, and that its value to the Farmers of the State will be very great. An Agricultural Survey of Orange County has been prepared for the coming volume of the Transactions by Hon. G. Denniston, formerly of that county and now of Steuben. Dr. Asa Fitch is engaged in summing up the results of his investigations into the Injurious Insects of the State. The success of the county and town agricultural associations for the year has generally been good, and in many cases exceeded the anticipations entertained. A large increase is probable in the Dairy business of the State. Cheese factories are springing up, and the foreign demand is rapidly enlarging. But we need a more definite and systematic plan of operations, to ensure the continued fertility of our soils, and greater and more certain pecuniary returns; and while engaging in particular investments, it should be done in such a way as not to jeopardize the other interests, and diminish the real capital, of the farm. The Fruit crop of the State is also becoming one of greater extent. The culture of Sorghum has been successful at the West, but experiments in this State have not resulted in such a way as to encourage effort in this direction. The Agricultural Statistics of the State for 1862, will probably be obtained this winter. The Fair at Rochester is reviewed at length. Obituary notices of friends of agriculture are given. The New-York State Agricultural College will be ready to resume operations as soon as more favorable times arrive, and the lands donated for the encouragement of Education in Agriculture and the Mechanic Arts by the last Congress, should be accepted by the State as a trust for the benefit of this institution.

After the acceptance and adoption of the Reports as submitted respectively by the Treasurer and Secretary, Mr. John A. Corey moved the appointment of a committee of three from each Judicial District to nominate officers for the ensuing year, and to recommend a place for the holding of the next Fair. This was agreed to, and the following committee appointed:

First District—Edward G. Faile. Thos. H. Faile, Solon Robinson.
2d.—Lieut. Gov. David R. Floyd Jones. Wm. Kelly, A. B. Conger.
3d.—Herman Wendell, J. C. Osgood, John S. Gould.
4th.—John A. Corey, Oscar Granger, D. P. Forrest.
5th.—T. S. Faxton, George Geddes, Norman Gowdy.
6th.—A. B. Cornell, C. I. Hayes, F. B. Smith.
7th.—D. D. T. Moore, H. E. Smith, C. F. Abbott.
8th.—T. C. Peters, L. A. Green, A. Dow.

The committee retired, and after deliberation presented the following nominations, which were accepted, and the gentlemen named duly elected:

PRESIDENT.

EDWARD G. FAILE of Westchester.

VICE-PRESIDENTS.

1. James Boorman Johnson of New-York.
2. Samuel Thorne, Washington Hollow, Duchess County.
3. Herman Wendell, Albany.
4. Chauncey Boughton, Waterford, Saratoga county.
5. Eli Merriam, Leyden, Lewis county.
6. Clark I. Hayes, Unadilla, Otsego county.
7. B. M. Baker, Rochester.
8. T. C. Peters, Darien, Genesee county.

COR. SECRETARY.

Benjamin P. Johnson, Albany.

REC. SECRETARY.

Erastus Corning, Jr., Albany.

TREASURER.

Luther H. Tucker, Albany.

EXECUTIVE COMMITTEE.

James O. Sheldon, Geneva; Samuel Campbell, New-York Mills; D. D. T. Moore, Rochester; Joseph McGraw, Jr., Dryden; Oscar Granger, Saratoga Spa.

The Society then adjourned until evening.

Evening Session.

On convening in the evening, Dr. Asa Fitch, Entomologist of the Society was introduced by the President, and read a paper embodying the results of his investigations during the past year, principally into the character and habits of the Insect which has of late proved so destructive in the Asparagus beds of Long Island. This was listened to with close attention.

Hon. Henry S. Randall of Cortland Village was then presented. His flock of Sheep having been attacked, the last of December, by a mad dog, and several of them bitten, Mr. R. had availed himself of the opportunity thus afforded to watch very carefully the symptoms and progress of Rabies in Sheep, and proceeded to give a fuller narrative of its various manifestations from day to day, beginning with its first inception and only concluding with the death of the patient, than has ever before been committed to paper by an American observer. It was our intention to have given in this number the general conclusions attained, but we are forced to defer them until hereafter. There are some discrepancies noted by Mr. Randall, between the cases he so thoroughly examined, and the descriptions of the disease heretofore given by Youatt and other foreign writers; and the paper was an interesting and valuable one, not only for this reason, but from the constant and minute examination involved and the detailed notes which were taken.

Mr. John Stanton Gould of Hudson, then read the Report of the Committee consisting of Samuel Campbell, Esq., of New-York Mills, A. Wild of Cohoes, and himself, who had visited Penn Yan and Lockport to examine the processes now going forward at those two places to produce Flax Cotton. The Report presents a full statement of the ends which it is desired to attain, and the measure of success heretofore accomplished. The action of the Executive Committee on the Report, is published below; their decision was only reached after a protracted discussion of all the different bearings of the subject, and was finally agreed to unanimously as the only one to which the Society, could come in justice to themselves and to the trust reposed in them by the Legislature of the State. It was matter of no little regret that the self-denying and public-spirited labors carried on during the past year by Mr. Beach of Penn Yan, and by the Flax Company at Lockport, should not have arrived as yet at practical results justifying the award to their projectors, of the fund appropriated by the State to test the important experiment in which they are engaged.

Mr. President Cornell then proceeded to read a paper on the results of his observations during the past season, in travelling among the farmers and breeders of Great Britain—a paper containing many useful suggestions, to which we may refer hereafter when it shall appear in print. Col. Johnson followed in an extemporaneous account of the American Department at the Great Exhibition at London, the reception our contributions met from the Commissioners and the public, and the successes they obtained. Col. Johnson's remarks met with frequent applause; and, in the course of them, he called attention to extracts from the reports of the London Times, descriptive of our Implements and Machinery exhibited. As soon as the awards of the Juries were published, and the public became aware that the proportion of prizes and honorable mentions received by American contributors was greater than that obtained by the representatives of any other country, the location occupied by our inventors was thronged with a constant crowd, and the London papers devoted considerable space to that part of the Exhibition. We have not room at present to quote, as we should like, the extracts read by Col. Johnson, and which will be embodied in his Report submitted to the President of the United States, as the Commissioner and official representative of this country.

The proceedings of the day and evening here terminated, after pleasant and profitable sessions, at which many of the oldest friends and former officers of the Society were present.

Second Day's Proceedings.

The Exhibition at the Agricultural Rooms included the customary show of Fruit, among which was an extraordinarily fine collection of Winter Pears from Ellwanger & Barry of Rochester, and a good show of Apples from Messrs. Slingerland, Sheldon, Price, Cary, Hall, and others, and a very limited exhibition of Grain, Seeds, and Dairy Products. There were a number of Implements also on view, notices of which will be found in the Report of the Committee given below.

A session for discussion, &c., was also held during the day in the Society's Lecture Room, Hon. A. B. Conger of Rockland, in the chair. The attendance was not large, and we have not room at present to refer to the proceedings particularly. A paper was read on the Wines and Vineyards of Europe, by Dr. Hall of Yonkers, who had devoted the season of the last vintage mainly to their examination.

Thursday Evening.

The Society met at the Lecture Room in the State Agricultural Hall, shortly after 7 o'clock, President Cornell in the chair. His Excellency Gov. Seymour being present, was invited to a seat on the platform.

The Secretary, Col. Johnson, then read the Reports of Committees on articles competing at the Exhibition—showing the following

PREMIUMS AWARDED—FRUITS.

Best collection of Winter Pears, Ellwanger & Barry, Rochester.	Dip & S. M.
Best variety of Winter Pears. (Easter Beurre,) H. G. Warner, Rochester,	S. S. Med.

APPLES.

Best 20 varieties, W. H. Slingerland, Bethlehem,	$4
2d best 20 varieties, H. Pine, Pittstown,	2
Best 15 varieties, George Cary, Bethlehem,	3
Best dish of Apples. (Newtown Pippin.) Geo. Cary,	S. S. Med
2d best do., (Esopus Spitzenberg,) J. O. Sheldon, Geneva,	Trans

GRAIN AND SEEDS.

1st premium Winter Wheat, E. S. Hayward, Brighton, (Soule's Wheat,	$3
2d. H. Pine, (Red Wheat,)	2
1st premium Spring Wheat, H. Pine,	3
1st premium Rye, H. Pine,	3
2d. A. E. Van Allen, Defreestville,	2
3d. H. Schoonmaker, Cedar Hill,	1
1st premium Barley, E. S. Hayward,	3
2d. H. Wier, Johnsonville,	2
1st premium Oats, H. Wier,	3
1st premium Yellow Corn, E. S. Hayward,	3
2d. H. Schoonmaker,	2
3d. H. Pine, Lansingburg,	1
1st premium White Corn, H. Wier,	3
2d. A. E. Van Allen,	2
3d. H. Wier,	1
1st premium Peas, H. Wier,	3
1st premium Beans, H. Pine,	3
2d. S. L. French, Warren,	2
2d. A. E. Van Allen,	1
1st premium Flax Seed, H. Wier,	3
1st premium Buckwheat, H. Schoonmaker,	3
2d. H. Wier,	2

A very fine specimen of ear Corn was exhibited by George Benedict of Verona, Oneida Co.

Twenty varieties of Corn in the ear were shown by D. A. Bulkeley of Williamstown, Mass.

The Committee recommended an honorable mention for a sample of California Peach Blow Potatoes exhibited by H. Schoonmaker, Cedar Hill, Albany Co.

D. A. Bulkeley, Williamstown, Mass., had on exhibition samples of his very excellent Seedling Potatoes, the Prince Alberts and Monitors.

Henry Wier, Johnsonville, Rensselaer Co., exhibited a very fine sample of Millet seed. There being no premium offered, the Committee recommended honorable mention.

BUTTER.

3 tubs Butter, made in June, August and November, H. Pine, 2d premium	$10
1st premium Winter Butter, S. L. French, Warren,	5
2d. Mrs. H. Wier, Johnsonville,	3

CHEESE.

1st premium, E. F. Carter, Evans' Mills,	$15

to the act of Congress appropriating Public Lands in the interest of Agricultural Education:—

Resolved—That the New-York State Agricultural Society are in favor of the passage of a law by the Legislature of this State accepting the grant of lands made by Congress "in aid of Instruction in Agriculture and the Mechanic Arts," and that the Legislature be respectfully requested to accept said grant, by the passage of a law to that effect.

An invitation having been received from the International Agricultural Exhibition to be held in Hamburg, July 1863, that our Society should be represented at the exhibition, and the invitation having been accepted, it was

Resolved—That the Hon. Ezra Cornell, President of the Society, be appointed a delegate to represent the Society at said Exhibition.

Mr. Cornell then proceeded to address the Society, having now reached the close of his term of office. His remarks were practical and will be read with interest by the farmers of the State. At its close he introduced the President elect, Edward G. Faile, Esq., of Westchester, who was received with hearty applause, and who very briefly pledged his best efforts for the prosperity of interests committed to his charge.

A vote of thanks to the retiring officers was moved by Hon. A. B. Conger, after which the meeting adjourned.

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Seeds.—Inclosed you will find some superior sweet corn, if it will not be too late for your latitude. It is a mixture of a large variety of white corn with the sweet corn—large stalks and large ears. Also, a few pumpkin seeds. W. Dennis. *Bucks Co., Pa.*

[For the Country Gentleman and Cultivator.]

RAISING CLOVER SEED.

Herkimer county is celebrated for its clover seed. Its production is here carried on as near to perfection as is possible, and has been made a business of for twenty-five to thirty years.

The climate seems peculiarly favorable. The land is generally rolling, and it is on the upland where the best success is attained.

Many farmers have made their fortunes by clover-seed alone. Christian Roof, a resident of Stark (in this county,) has raised a hundred and eight bushels from twenty acres, in one crop. The seed brought him ten dollars per bushel. This paid for the land, a lot of twenty-four acres which he bought two years before. It is the large clover which is mostly raised, though the June variety has been introduced recently.

The plan of raising clover seed is this:—The seed is sown usually after the harrow leaves the ground in the spring. Wheat or barley ground is preferable—decidedly so. As these grains, however, are but little sowed, oat land has to be depended upon. In a moist season there is no difficulty unless the grain is very heavy. The few fields that are sowed to winter grain, are, of course, preferable to anything else, as then the seed is sown early. I have had my best success sowing it on the late snows of March or April.

We always mix a little timothy seed with the clover, in various proportions—generally half-and-half. Some sow double the amount of clover. The timothy is mixed with the clover in consequence of the climate and the nature of the soil. The ground has a tendency to heave. In the spring the freezing and thawing lifts the roots of the clover, in many places clean out of the ground. The soil is a sandy loam, yellow on the knolls and dark in the valleys, with a substratum of clay in many places. The hills are usually light, and require manure to raise almost any crop. There, exposed to the winds, clover as well as winter grain, fares hard in the winter. Even timothy, with its surface-creeping root, will sometimes be lifted by the frost, though seldom or never in old meadows.

Clover, therefore, may be said to last but a year. A favorable winter will extend it to two, and even more years, but this is not to be relied on. The timothy is always sowed with the clover and appears the second year as a crop, or when the clover disappears, which in most cases is the first year, when mowed for seed—less so when hay is cut, as the timothy is then encouraged, and seems to aid the security of the clover. But when cut for seed the frost generally sweeps the clover the first year, probably on account of the nakedness of the ground. The second crop is generally an excellent one of timothy, and latterly in most cases is cut for seed—cut with the cradle, and harvested the same as grain.

We have now our ground seeded. We have used a peck of seed—mixed clover and timothy—to the acre. some use more, some less.

The spring opens auspiciously, always with clover seeding. As soon as the ground is "settled"—as soon as it is compact enough to sustain the hoofs of the cattle, especially sheep, both cattle and sheep are let on and kept there till the *fifteenth* of June. This fifteenth of the month is a very important thing. A week earlier often makes a fatal difference. If fed later the frost is apt to interfere; if earlier, the sun. This is the universal experience here. Now and then the fifteenth finds the frost too early; but in the majority of cases, this is the point most favorable between the sun and the frost. It is seldom that the sun scorches when close cropping is extended to the middle of the month. The frost is most feared.

Another equally vital point is, *close feeding.* This gives *uniformity of ripening*—an indispensable condition, as the proper, the best time for ripening, is but a short period between the sun and the frost. A cool, rather dry atmosphere is needed, as there is nothing more delicate than the "filling" of clover. It is like the diamond or gold that forms in the mine. A few days generally will determine. But these days are seldom wanting. A total failure has hardly been met with the last eight or ten years, since the thing has been understood. There are constant variations of course, as the seasons vary. Hot, damp weather, is always fatal at the "filling" time. A "blast" never fails to be the result. Much rain has also an injurious effect. This is the experience.

There is one advantage we have. At the time when it is determined whether there will be a good crop of seed or not, which is when the head is still green, though browned on the outside, the stalk of course green,—the crop may be cut for hay. This was much done years ago, but recently less. Either the few early or late heads are good. I don't think I have ever known it to fail. But this alone, or both the early and late heads, will not pay to harvest for seed, unless the intervening main crop of heads is a partial success. The three united, are never an occurrence,—one or more will always fail. At least this is my experience, and observation also.

There is one difficulty experienced in raising clover-seed—the difficulty of feeding close. It should be cropped down to the ground. If the field looks like a barren field—like the road—all the better, as it gives uniformity of ripening, as we before stated.

It will be at once seen that this process of close-cropping, is the worse for the stock upon it; for the last week or two there is always a falling off in flesh. With sheep this is less so, and hardly perceptible. Hence it is difficult to get stock enough to feed down your clover. A dairyman is pretty sure not to lend you his cows to starve and shrink them. Sheep are always willingly let. If the weather is showery and growing, the difficulty of close-cropping is increased. Thus between the weather and the want of stock the clover is sometimes left "uneven." This is always dreaded.

Another indispensable now follows: Plaster (gypsum) must be used. This is applied—by no means in the spring—but immediately as the stock leaves the field. This is necessary to give *all* a vigorous growth, and to overcome the drought which usually follows. It is even held that plaster has a particular quality, aside from its usual effect upon grain, that influences clover. Plaster is certainly necessary to a full, vigorous growth, not only of straw, but of seed.

As soon as ripe, or after the first killing frost, the clover is mowed, dried and gathered. It used to be threshed on the field, the "chaff" then drawn to the clover mill. But it is now the practice to thresh in the winter, and "grind" in the barn. A common thresher will clear the seed from the chaff; but mills for the purpose are used.

The richest soil is not the best, in fact not so good as a more light soil. A soil pretty well worn out, is usually put down to clover seed. It is always considered to improve the soil, even if but a single crop of seed is taken off. The ground is always mellower after clover than before, and in this respect at least is improved. But it is benefitted by the long roots of the clover, which occupy the soil like a mat. These form manure. A field plowed immediately after the clover is removed, turns up "mellow as an ash-heap," and is considered certain for a good crop of grain, and even corn, the succeeding year. Raising clover seed and dairying, are the two great modes of improving our soil; and they have improved it a hundred per cent in twenty years.

To raise clover-seed then, there must be a good seeding, the thicker the better; close cropping till the middle of June; the stones carefully picked, as the clover is usually lodged, and the scythe hugs the ground; plaster immediately applied (the usual amount) after the stock is turned out, and the thing is done. This is now the successful experience here. The present has been a very favorable year, averaging from three to five bushels to the acre.

After the second year, when a crop of timothy seed is secured, the lot is left for meadow, timothy preponderating, and producing our best hay. As the clover lessens each year, the timothy takes its place, till within a few years, little or no clover is left. F. G.

[For the Country Gentleman and Cultivator.]

GETTING A FARM.

Those examples of successful farming where young men have been able in a few years to pay for and improve their farms seem, to many, extreme cases of success, and exceptions to the general rule. The more usual conditions of attaining the possession of a good farm, are many years of industry and careful management. The profits of farming are moderate, and the acquisition of a good estate by this calling requires more patience than by any other. And this is the reason why many young men turn from this to some more promising profession. They are in haste to possess the means of setting up a comfortable establishment, and cannot think of waiting for years for an independence, and turn therefore to some business which promises a fortune in what they are pleased to call a reasonable time. They mean to have a farm and gratify their rural tastes, when they shall have made money enough by some profitable business to be able to do so.

It is not to my purpose now to show how often these young men are disappointed, and how they are deceived in their views of the enjoyment of rural life. My object is to give a word of encouragement to those who may be tempted to shun the slow way of getting an estate, and my lesson shall be drawn from the experience and observation of more than 25 years. The experience of a large number within my observation during this time may be considered embodied in one case, which is probably a fair sample of a very large number all over the land.

A young man began his career by working for his father at stipulated wages, which he continued a few years, until his ability was fully tested, when he took the management of a farm on shares. The time at length came, when he would have a farm of his own, which he purchased with much solicitude and many fears of ultimate success in paying for it. His former accumulations, together with a small patrimony from his father's estate, was not sufficient to pay for half the cost of the farm and stock, and he often wished himself on a smaller place, and out of debt. The farm he purchased, like many others of that day, had been pretty hardly run with crops of grain, and was much out of repair. There was an enterprise requiring good courage and perseverance. Our farmer had three principal things to do: he had his family to support, which was not small, his debt to pay, and his farm to improve. It is sufficient to say that he carried these on together every year. There was no year but at the end of it he had, besides paying the interest and improving his farm, paid something upon the principal, generally however a little less than he had anticipated. He had not only these things to do, but he must sustain the social position which his family and his education entitled him to. His civil, social and religious relations must be maintained. Not one of these was neglected; he stood in his place as an American citizen, and took upon himself all the duties and responsibilities of his station. In this respect he avoided an error which most young men in debt fall into, who in their impatience, are ready to forego almost the comforts of life, ignore most important social relations, and leave all improvements till they are "out of debt." They are willing to deny themselves and their families all the elegancies of life, and make themselves mere drudges to obtain first a competence, and when this is accomplished they find themselves unfitted by their habits and associations for a true enjoyment of what they possess, have become sordid, and are only satisfied with increase of gain. But our farmer improved his place with many tasteful though simple embellishments, and his mind by reading and good society, and this without any great expense of time and money. He rejected the principle that a man ought to make as much money as he can.

He accomplished what he undertook, in paying for his farm. Not quite so soon as he expected, (the gray hairs begin to crown his head,) for he had his share of the reverses of business, and it might seem a long time, but when he had paid his debt, he had a complete farm, a good estate, a competence. For, as I said, he improved his farm yearly, so that the productive capacity of it is more than doubled, and the nett profits are in still greater proportion; the fences are good, and the buildings greatly enlarged and improved, and the stock of the farm increased in number and value. So that what cost him ten thousand dollars is now worth more than twenty thousand dollars.

Now the very thing which our fast young men picture to themselves as the desired end of all their anxious toil and hazardous speculation—a quiet enjoyment of rural life, he has possessed from the beginning of his career. He has not denied himself one of the real blessings of life. All the healthful and satisfying delights of labor he has enjoyed without many of its anxieties. What a zest it gives to his labor that he is improving and embellishing what is to him, and what will be to his children, a beloved home. N. Reed. *Amenia, Duchess Co., N. Y.*

CURE FOR BONE SPAVIN

Eds. Co. Gent.—I send you a recipe for the cure of bone spavin, which is also a valuable remedy for rheumatism bruises, cuts, &c., in the human system:

Liniment for Bone Spavin.

One pint of alcohol.
One ounce organum oil.
One ounce British oil.
One ounce camphor gum.
One ounce Castile soap.
One ounce opium.
Three ounces spirits of turpentine.

Cut the soap fine and mix all together.

ALEX. WALLING.

[For the Country Gentleman and Cultivator.]

CURING TOBACCO.

Messrs. Editors—I notice an inquiry in the last number of the Co. Gent. by E. M. S., as to the cause and prevention of "*fat* stems" in tobacco, and also, how to know when the plant is ripe. The cause of "fat stems" is, not letting the plant hang till the stem of the leaf is fully cured. The remedy is, let it hang *till it is fully cured.* That is a *sure* remedy. I must say that E. M. S. does not know what he is talking about when he advises brother farmers to use "lath" instead of twine to hang our tobacco. He says it is more costly, does not take *half* so many *nails*, and is more convenient, &c. Now sir, if he uses *two* nails in hanging his small crop, he uses *more* than twice as many as we do in hanging several acres, for we do not use *one.* We use sawed stuff for hanging poles, sawed 5 inches by 2, and 12 feet long. Make the twine fast to the first plant, and place it against the left hand end of the pole; the next is put on the opposite side, give the twine one turn round the plant, and the next in like manner, and so on, till the pole is filled. Then make the twine fast to the last plant. Each pole should hold from 26 to 28 plants, according to the bigness of the growth. An experienced hand will easily hang from half to three-fourths of an acre per day. "Try it brother farmer," and you will never use *lath* "again." Tobacco should stand from 15 to 20 days after it is topped before it is fit to cut. When ripe it turns spotted. Another way to ascertain when it is ripe is, double the leaf from the under side; if it cracks or breaks, no matter how soon it is cut if the weather is suitable. It injures the crop for wrappers to let it get too ripe. P. Lathrop.

South Hadley Falls, Mass., Feb., 1863.

THE CULTIVATOR.

ALBANY, N. Y., MARCH, 1863.

☞ We devote all the space we can spare for the purpose—to the exclusion of a number of articles intended for publication this week—to the proceedings of our State Agricultural Society at its regular Winter Meeting in this city on the 11th and 12th instants. It will be seen that the receipts for the past year were $17,169.02; expenditures $13,354.96; cash on hand, $3,814.66, including the State appropriation of $2,000 for flax machinery premiums. EDWARD G. FAILE, Esq., of Westchester county, was elected President for this year. UTICA was recommended as the place for holding the next State Fair.

An application was presented from the citizens of ROCHESTER for the holding of the next State Fair in that city, as the almost continuous rain during the Exhibition of 1862 prevented the large attendance of the Farmers of Western New York which might otherwise have been expected.

At the session of the Executive Committee (new board) on the 13th, thirty days were accorded to the citizens of Utica to complete their arrangements, and the location and time of the Fair were not positively fixed—the subject being postponed until the next meeting of the Committee, to meet the wishes of those who have the matter in charge at Utica.

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THE INTERNATIONAL AGRICULTURAL EXHIBITION AT HAMBURG.—We have received the following note from Hon. BRADFORD R. WOOD, United States Minister to Denmark, with reference to the International Exhibition to be held at Hamburg, July 14–20, which has been already noticed in our columns:

COPENHAGEN, January 20, 1863.

L. TUCKER, Esq.—*My Dear Sir:* I herewith enclose you the circular of the intended exhibition at Hamburg. In my opinion it is more important that we should be well represented there than at any exhibition that has taken place in Europe. Will you do all you can to make it known to our exhibitors? We shall, if we choose, have a fair and successful field. Very truly yours,

BRADFORD R. WOOD.

All particulars with regard to this exhibition may be obtained from Messrs. Austin Baldwin & Co., 72 Broadway, New-York. Circulars will also be sent on application to Col. B. P. JOHNSON, Agricultural rooms, Albany. We are glad to see that the attention of Congress has been called to the subject; on Thursday a joint resolution was reported in the House to facilitate a proper representation of the interests of the United States on this occasion, and appropriating $10,000 for the transportation of articles to New-York, thence to Hamburgh and back, to be returned free of duty, also $5,000 for the salaries of a commissioner and clerk. Intending exhibitors should move promptly, as the entries are to be closed April 15th.

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CATTLE SALES.—We learn that A. N. MERRICK, Esq., of Springfield, Mass., has recently purchased of G. Clarke, of Otsego county, N. Y., his thorough-bred Hereford bull "Petrarch," and also a two-year old heifer, "Bombazine 3d," both being very fine specimens of this excellent breed of cattle. Also a Devon bull calf "Sigel," and cow "Fairy 3d," from the herd of the Hon. E. H. HYDE, Stafford, Ct. Mr. Hyde is President of the Connecticut State Agricultural Society, and has a well known Devon herd, to which he has lately added the Devon bull "Nelson," which took the first prize at the State Fair at Hartford, in October last.

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☞ NICHOLAS LONGWORTH, so long and widely known as the great advocate and manufacturer of American Wines, as well as for his interest in Horticultural pursuits, died at his residence in Cincinnati on the 10th inst., after a severe and prolonged illness. He was born at Newark, N. J., January 16, 1782, and had consequently completed a few weeks more than his eighty-first year at the time of his death. In the year 1803, he emigrated to Ohio, and took up his residence in Cincinnati, then in its infancy. He was fitted for the bar by Jacob Burnet, one of the most eminent lawyers of that region, and after twenty-five years of practice, he retired from the profession, devoting the remainder of his life to the care of his large estates, and to practical horticulture.

Mr. LONGWORTH was the first to call attention to that very important fact in connection with the successful cultivation of the strawberry plant in this country—the difference existing in the sexual character of the blooms produced by different varieties. His views on this point, although controverted at first, have now received the assent of all our cultivators. He induced many vine-tenders and others of European experience in grape-growing, to devote their attention to vineyards, and become his tenants in the vicinity of Cincinnati, and encouraged them to friendly rivalry not only in the character of the wine they made, which went into his cellars, and subsequently reached the market under his brand, but also in the production of new varieties of the Strawberry, and in experimenting with untried varieties of the Grape of both foreign and domestic origin. Outside of his Horticultural pursuits, Mr. LONGWORTH bore the character of a liberal and public-spirited steward of the very large wealth acquired by the judgment he always displayed in real estate investments, and otherwise; he was an early and constant patron of POWERS, the famous artist, and nothing pleased him more than to call the admiration of his visitors to the fruits of POWERS' genius which adorned his mansion. Simple and plain in his attire and habits, his eightieth year found him almost as active and industrious as ever, and his death creates a blank in the horticultural circles of his State and of the country, which there is perhaps no one left to fill.

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☞ RICHARDS BRADLEY, Esq., of Brattleboro, Vt., has purchased from SAML. THORNE, Esq., Washington Hollow, Duchess Co., N. Y., a young Short-Horn cow, just parted from her first calf, which, with previous purchases from the same source, should tell to advantage on the rich bottom lands of the Connecticut Valley.

The prospects of Improved Stock appear to brighten as the winter passes, and we should not be surprised if the summer opened on a good demand at encouraging prices. There was certainly never a better opportunity for buyers than is now afforded, and those who are interested will act wisely to select intended purchases at an early day. Mr. THORNE, and we believe several other breeders, have had quite a brisk demand during the month. We cheerfully record the particulars of transactions of the kind, not only because they are interesting to a large class in the agricultural world, but also for the reason that this publicity may help to promote the dissemination of improved blood in other directions.

☞ It has been already intimated that the unprecedented advance in paper—the price of which is still very firm, with a prospect of increase rather than abatement—might compel us to diminish the quantity required for our weekly edition, either by giving a smaller number of pages during the summer season, or by accommodating ourselves in some other way to the necessities of the case. But the increased subscription receipts of the past two months—beyond any estimate we had allowed ourselves to entertain—may enable us, if sustained by a corresponding increase during the remainder of the year, to keep up the same size and frequency of issue as heretofore, without even a temporary change, and, moreover, without involving a loss too great to be overbalanced by the pleassure of passing through so difficult a "crisis" with no increase of price, nor the slightest diminution in quality or quantity of matter published.

To this end, however, we think we may fairly urge our friends to continue the kind efforts, for which we have already to return our thanks to so many,—in extending the circulation of the Country Gentleman and The Cultivator. Their claims upon the support of the Agricultural community we base solely upon the actual pecuniary profit which it is believed every intelligent reader must derive from their perusal, in proportion to their cost. If any practical subscriber to the Country Gentleman, cannot secure fully *Four Cents' Worth of Information out of Each Weekly Number*—in all, *if not in each*, of the different Departments to which it is devoted—we should think the labor expended upon its preparation, sadly thrown away.

Additions to clubs may of course be forwarded at club rates, but it is not too late to make up new clubs.; and, in these two directions, much may still be accomplished. If every subscriber who has not yet paid his subscription for the current year, would but send *one additional name* together with what he is owing himself,—or if every new subscriber already received would endeavor to secure one more new reader,—there would be no doubt or uncertainty whatever as to the future—whatever might be the course of the paper market. And those in arrears may never see a time, so favorable as the present, for the payment of debts; since, in the abundance of money, the loss arising from its depreciation is shifted from their shoulders to ours, so soon as the debt is paid.

What is the Shrinkage of Corn?—Is a question often asked aud not often answered. On the 12th day of December 1860, weather bright and clear, I took from the top of my corn-crib where there was a free circulation of air, a lot of ears of corn, which were gathered about the first of November in fine weather,—the corn very sound, and weighed them separately; shelling since and weighing corn and cob separately. Kept them in a warm room ten days, and found the shrinkage from 25 to 29 per cent. of original weight. The cob shrunk about the same per cent. as the corn which was shelled off. H. C.

Three Oaks, Mich.

Ag. Statistics.—We are engaged in an interesting enterprise of collecting the Ag. and Hort. Statistics of our County, (Cayuga,) which, when they are embodied in the report, will form a chapter which will be perused with no little interest, and we feel assured that the enterprise will give a new impetus to the agriculture of our own county, and will also emulate the zeal of enterprising farmers in other counties to commence and carry out greater improvements in every department of agriculture than we have already met with. The returns from some of the towns, and the laudable interest that is manifested in this enterprise, shows that the motto of many of our farmers is "*Excelsior.*" S. Edwards Todd. *Auburn, Feb.* 10.

Corn after Buckwheat.—I see the "Corn after Buckwheat" subject frequently discussed in The Cultivator. A notice of the article on p. 109, 1857, might be satisfactory to some subscribers who have commenced taking the paper since that time. I have never seen it stated that plaster will *not* make buckwheat land produce good corn. If it *is*, or *is not*, a cure for the evil effect of a crop of buckwheat on a succeeding crop of corn, should be proved by trials and the results published.

W. C. H.

From a Subscriber in Michigan—Permit me to express to you my appreciation of the admirable manner in which the Editorial department of the Co. Gent., is conducted, and especially of the matter, temper and style of the leading articles. The completeness of the paper, not only as regards the weekly numbers, but pervading the two annual volumes, is without parallel. While your subscribers have well attested the practical value of the paper, I have wished to express to you, as I have briefly done, my appreciation of the results of your labors and abilities in giving organization and soul to the fragments of which it is composed. E. D. *Kent Co., Mich.*

Average of Wheat Crop in Michigan.—Having very little faith in the usual way of estimating the average yield of grain, I last year requested several thrashers to keep an accurate account of the number of bushels of grain thrashed, and the quantity of land on which it was grown. At this time, but one (James R. Greer of West Bloomfield,) has made returns, and his beat is not in the heaviest grain producing portion of the county. He thrashed for forty-four persons, an aggregate of nine thousand nine hundred and twenty-five bushels of wheat, grown on six hundred and sixteen acres of ground, making an average of sixteen bushels and nearly one-eighth per acre. He also thrashed two thousand five hundred and ninety-four bushels of oats, grown on one hundred and two acres of land, by twenty-two persons, being an average of twenty-five bushels and nearly one-half per acre. These yields of grain in a fair average grain-growing region, during a season much better than common, do not look like "high old farming," yet the writer does not have any fear in comparing the farms and farmers of this part of the peninsula with those of any other portion of the *remnant* of the Union. H. *Pontiac, Jan.* 13, 1863.

The Country Gentleman in a Cultivator Club.—In making up Clubs, a subscription to the Country Gentleman at $2 a year, will count the same as Four Subscribers to The Cultivator, and the subscriber to the Country Gentleman will receive one copy of the Register. That is, Five Dollars will pay for one copy of the Country Gentleman and six copies of The Cultivator, each subscriber receiving a copy of the Register. And Ten Dollars will pay for six copies of The Cultivator and four copies of the Country Gentleman, each subscriber receiving a copy of the Register.

Single copies of the War Map sent postpaid for 25 cents each.

The Illustrated Annual Register.—A subscriber in Ohio, writes as follows:—"I have all of your Registers, and would not part with them for ten times their cost, if they could not be replaced."

☞ Our correspondent J. B. Poyntz, Esq., of Maysville, Ky., sends us the result of an experiment undertaken by him last season to ascertain the Potato giving the largest per centum of increase upon the quantity planted. He says that if he had been aware of the results obtained in this experiment, in time to have acted on them in putting in his last crop, the twenty-five acres thus planted would have been worth five hundred dollars more to him when the crop was dug than the product actually sold for—his crop having been disposed of as dug at one dollar per bushel. Mr. Poyntz' farm is in latitude 38¾, longitude 84 W.—land, limestone, with yellow clay subsoil. Mr. P. writes:—

"1862, May 26th—Planted 42 single eyes, of each variety. Cut to weigh one pound two ounces, each lot. The ground was spaded one spade deep—no manure or top-dressing used. The rows were 4 feet apart, and the eyes planted 22 inches apart in the rows, and 4 inches beneath the surface. Had no rain to wet the ground to the depth they were planted, while they were in the ground. They were dug, counted and weighed in November.

				lbs.	oz.
White Fleshed Peach Blow,............	132	tubers,	weighing	15	2
White Chili,..............................	146	do.	do.	11	14
Andes,.....................	146	do.	do,	15	12
Garnet Chili,...	101	do.	do.	13	
White Neshannock, ...	138	do.	do.	10	14
Blue Neshannock,........................	194	do.	do.	11	12
Copper Mine,..........	80	do.	do.	7	
Pink Eye Rusty Coat,..........	90	do.	do.	8	8
Mercer, (blue streaked,).................	130	do.	do.	10	

In the above, no potato was rejected on account of its size; all that could be found in digging were counted and weighed."

Ohio Sorghum Convention.—The Ohio Farmer contains an extended Report of the interesting and important Convention held recently at Columbus. The members present who had experimented in the manufacture of Sorghum sugar and molasses, all preferred a soil of medium fertility without manure. The rich bottom gave a luxuriant growth of stalk, but the juice was of inferior quality. Some of the members thought it unnecessary to strip the leaves from the stalks, and had thus made good molasses, but under ordinary circumstances, the practice was generally preferred. They should not be stripped before the time of cutting; after which they might be corded for several weeks without injury. Some preferred removing the seed before it ripened; this would no doubt prevent exhaustion of the soil. It had been found necessary not to cover the seed very deep—as they are much smaller than Indian corn; the necessity of a less depth is obvious; probably an inch would be quite enough. The sorghum was preferred to the Imphee by the great majority of members present. For crushing the stalks, the mills with three rollers were generally preferred to those with two—rapid evaporation of the juice without burning, has been found important. The prevailing opinion was, that this manufacture would prove successful, and of importance in value in Ohio.

☞ Mr. Geo. Cary of this city has recently added to his flock of South Downs, several head from Thorndale and Holmdel. He purchased from Mr. J. C. Taylor a yearling ewe, sired by "Reserve," and in lamb to "No. 89," which was procured, it will be remembered, at Mr. Webb's sale in 1861; and from Mr. Samuel Thorne two more ewes—one of them, "No. 10," imported from the flock of Henry Lugar, Esq., Bury St. Edmonds, and the other, "No. 62," of Mr. Thorne's breeding, and descended from the ram "No. 112." Both these ewes are in lamb to "Archbishop," the prize ram at the Canterbury Royal Show, and imported by Mr. Thorne in 1860.

We are glad to note the foundation, on such an excellent basis, of a South-Down flock near this city, where this admirable breed has not of late had the attention it deserves.

☞ A Young Farmer of Michigan, writes us as follows:—"I have got together a flock of 95 sheep, 14 of which averaged 16 lbs. of washed wool per head last spring, and the rest of the flock are *good.* I have fixed places for keeping them, and have managed them according to notions and plans set forth in your Cultivator, and which I am satisfied have been worth to me many dollars."

Bement's Poulterer's Companion.—Orders for several copies of this book have been waiting attention at this office for some time. The publishers, Harper & Bros., New York, informed us in December last that they were printing a new edition, and, as soon as it is ready, we shall receive a supply and fill orders on hand. Meantime there is nothing to do but to wait.

☞ W. W. De Angelis, Esq., of Hol'and Patent, sends us a sample of Cheese made by him, according to directions heretofore published in the columns of this paper, and very well sustaining his recommendation of the system employed, in the richness of the product obtained.

Delaware County Farming.—People complain about here, of the times being "clus," but I "can't see it." The weather has not been rigid, by any means; indeed, it has been unseasonably mild—snow about five inches, and good sleighing at present, and as for shinplasters, they are "lying about loose" everywhere, thicker than the lice of Egypt, and about as great a plague. This portion of Delaware Co., was once famed for its large exports of lumber, by way of the Delaware river to Philadelphia, but now, since its lumber on account of scarcity has become a secondary consideration, the people have turned their attention to dairying and wool-growing, and with very flattering results in the line of profits. There is no more fertile region in the "Old Empire" than this valley of the Delaware, well adapted for the growing of corn, hay and oats as staples for winter consumption, while the slope along the base of the mountains affords ample and nutritious pasturage for thousands of ruminating quadrupeds. Indeed, for salubrity of climate, and beauty of scenery, as well as for successful farming, this once wild and picturesque region on the Delaware is unsurpassed. Through the untiring perseverance of the intelligent and hardy generation which has succeeded the honest but unrequited lumberman, the mountain and wilderness has been made glad, and every valley and hillside and mountain-top has been made "to rejoice and blossom as the rose." Prices of produce are as follows, at the present time: Butter 20 to 25c.; Corn, $1.00; Oats and Buckwheat, 60c.; Potatoes 50 to 60c., &c. Shipping point, Deposit, N. & E. R. R. B. McGibbon.

☞ A convention of Sorghum growers was held at Uniontown, Fayette Co., Pa., on New Year's day. It was stated that 30,000 gallons of the Sorghum molasses were made in the county during the year, and that thirty mills are in operation.

Inquiries and Answers.

THE CRANBERRY.—Will you please tell me how to plant cranberries—i. e., time, soil, suitable number of plants, nearest place they can be obtained, after culture, product, &c. I have a piece of land, the surface of which (muck) has been hauled off to the depth of nearly three feet. The soil left is a gravelly sand, always wet, and in the winter will be flooded, as I have thrown a dam across to make an ice house. Is this land suitable? G. B. *Cecilton, Md.* [The best thing our correspondent can do in learning how to manage the cranberry, is to send 60 cents to this office, for "Eastwood on the Cranberry," and he will receive it by mail. There are so many modifying circumstances, in the management of this crop, that we cannot give full directions in a single short article. Plants can be had of Dr. Halsey, Victory, Cayuga Co., N. Y., G. A. Bates, Bellingham, Mass., and from several other cultivators, whose address we have now forgotten.]

MUCK.—What is the best mode of using muck when some distance from the barn? G. B. [Throw the muck into heaps in the summer time, when it will become well dried by winter, then spread it over cattle yards, when it will be well worked in with manure. Or, it may be used in the manufacture of compost heaps, by alternating it in thin layers with manure.]

ROTATION.—What is the best rotation to improve land under the five field system? [The rotation will have to be modified somewhat according to the prevailing crops of the locality. The following is a good rotation where wheat may be raised: 1st year, corn with manure; 2d year, peas, beans or barley; 3d year, wheat; 4th and 5th years, clover. Where the soil is strong, oats may take the place of barley, provided manure is applied to the succeeding crop of wheat.]

SPECIAL MANURES.—What is a good composition as a special manure for corn, potatoes, beans, and cabbages, to be used when planting, and as a top-dressing for the young plants afterwards? I have perhaps 50 loads of surface soil, a gravelly loam, which has been lying in a pile for several years—would it pay to compost this with plaster or other special manure before spreading? If so, which is the best, and in what proportions? M. A. *Conn.* [Common yard or stable manure is nearly the only one that can be relied on, as useful under all circumstances. Special manures are sometimes valuable, but more frequently not so; and experiment is required to determine. There would be no advantage in mixing the surface soil with plaster; it would make good compost with common manure.]

HOP CULTURE.—One farmer wishes to know if there is any work on "hop-growing," that is reliable, and that gives all the necessary information so that a person, altogether unacquainted with the business, could from the directions given, grow hops and care for them with success. If you know of such a work please inform me. Or if there is no such work, could one have the necessary information given through the columns of The Cultivator? T. S. W. [We know of no work on the Culture of Hops. We have heretofore published several good articles on the subject, and shall be pleased to have the experience of any of our readers on the culture of hops.]

RAWHIDE.—Can you or any of your correspondents give a mode of dressing rawhide so that it can be used for halters, flail strings, &c. O. P. G. *Herkimer Co., N. Y.* [In our Illustrated Annual Register for 1862, p. 224, you will find full directions for dressing rawhides, and the various valuable uses to which it can be put. If you have not the Register for 1862, we can send it to you post-paid on the receipt of twenty-five cents, and this one article will be worth to you more than its cost.]

GAS TAR.—I have recently been using gas tar for painting the wounds made by removing large branches from apple trees, and think it far better than the shellac solution. Do you think it would in any manner injure the trees? Cult. Sub. [Gas tar or any kind of tar, is a good application for wounds made in removing limbs. It is much improved by an intermixture of brick dust, whiting or fine sand, in which state it should be applied warm. This mixture retains its place better than tar applied alone, and is the best application we know of, all things considered.]

CHICK PEA.—Will you please to inform me through The Cultivator, whether the Illinois Coffee, or Chick Pea, is or is not identical with the Chick Pea described in Wood's Botany, page 222, edition of 1851. After the description of this, we read that "it proves to be a slow poison, both to man and beast, producing ultimately entire helplessness, by rendering the limbs rigid, but without pain." Now if this is the article which has been sold as the Illinois coffee, I think that the public should be cautioned against it. Is not the Garbanzo (Cicer arietinum) the same thing also? The botanical name of the Chick Pea is by some writers at least given as Cicer arietinum, although Wood puts it down as Lathyrus sativas. I noticed an article in the Jan. number of The Cultivator, recommending the Garbanzo as a substitute for coffee. Old Subscriber. [We have no copy of Wood's Botany at hand; but we can say that the Illinois coffee, Garbanzo, and the Chick pea, as described by Gray and Darlington, are identical. We have no reason to suppose there is any poison in it, as it has been used in the East, as food for man and beast, for centuries.]

DARLINGTON'S WEEDS.—What is the price of American Weeds and Useful Plants, by Wm. Darlington? O. B. *Huron Co., Ohio.* [We can send you the book by mail post-paid for $1.50.]

FRENCH PRUNE.—Can you tell me whether French prune is more or less troubled by curculio than the old German prune. I refer to the variety described by Mr. Hillmann in The Cultivator for last December. Old Subscriber. [The French Prune has a thinner skin than the German Prune, and is probably more subject to the attacks of the curculio.]

HEN MANURE.—I wish to know the quantity of chicken manure to use in each hill, and whether it will injure the roots of the young plants coming in contact with it. E. M. S. *O.* [A tablespoonful is enough for each hill. It should not come in contact with the seed. The best way is to dry it, pulverize it thoroughly, carry it in a basket, drop a spoonful into each hill, spreading it a little, then mix it with the soil by two or three strokes of the hoe, and then drop the corn or other seed. Making it into compost by mixing it with several times its bulk of mellow earth or dry muck, answers well, but being bulky requires more labor to distribute it.]

SEEDING TO CLOVER.—I have an old field, just come into my possession, which I wish to seed down to clover, or a mixture of clover and other grasses. The field is too poor to pay for raising a crop of wheat, which is here the usual grain to seed down with—besides I should like, if possible, to get it in clover the coming spring. I have been thinking of sowing corn and seeding down with that, but I fear it will shade the ground too much. What should you advise in the premises? J. M. S. [The only way to seed it down *well* with clover, is to enrich it and bring it into good cultivation first. Corn fodder would shade the land too much, unless sown too thinly for profit. Moderate success may be expected by the following treatment: spread a good coat of manure evenly this winter. Harrow the surface very thoroughly early in spring, and immediately sow the clover seed, rolling it in.]

GREEN CROPS.—Will you give some information in regard to plowing in clover for manure. It has never been tried in this region to my knowledge, and I am entirely unacquainted with the process. A Subscriber. *N. Guilford,* *Conn.*, *Jan.*, 1863. [The process consists simply in turning under a dense growth of two year clover, and allowing it to remain till it decays. If well done, winter wheat may be sown on the inverted sod.]

MANURE.—I see it recommended, in your paper, to apply manure for corn in autumn. Farmers in this section make nearly all their manure in the fall and winter. Will it pay to let it lie in the yard through the summer, so as to cart it out in the fall. CULT. SUB. [The answer must depend upon circumstances; very strawy manure may be best if left in heaps to rot through summer, exposed to the weather. Manure containing little litter would be spoiled by this exposure, and if spread would readily harrow fine, and mix with the soil for spring crops. But other things being equal, it is always best to spread manure in autumn or winter. If necessary, compost heaps with turf, &c., may be made with the last named manure.]

COMPARATIVE VALUE OF CATTLE FEED.—Can you give the comparative value of corn, oats, hay and straw, for fodder? CULT. SUBSCRIBER. [The average of a number of experiments give the comparative value of these kinds of food. The figures giving tho number of pounds of each substance to be equal to the quantity given of any other:

Good Hay,	100 lbs.	Indian Corn,	56 lbs.
Rye Straw,	350 lbs.	Oats,	59 lbs.
Oat Straw,	220 lbs.	Rye,	49 lbs.

VALUE OF FODDER.—Will you please answer a few inquiries, through THE CULTIVATOR. If corn is worth 75c. a bushel, oats 60c., hay $12 a ton, straw $8, is it not more profitable to sell the corn, oats and straw, and buy hay? A SUBSCRIBER. [At the prices given, the hay will be the cheapest feed, corn next, then oats. Straw varies much in quality and value, but it must be a very good ton of straw that is worth half a ton of hay. These estimates are founded on the assumption that the grain is ground and properly fed. A few pounds of ground meal per day, in connection with fodder, contribute largely to the growth and flesh of cattle in winter. It has been found by repeated experiment that large quantities of grain are littlo or no better than quite moderate regular feeding.]

WILLOW HEDGE.—Will you please give me your opinion as to the white willow (Salix alba.) I havo thought of making a hedge of it, as a protection to my peach orchard, against northwestern winds, but would not have it upon any account if it is likely to throw up suckers from the roots, as my trees grow near the fence, and the hedge would have to be narrow. Where can the slips be obtained? G. *St. Louis*, *Mo.* [Such a hedge would naturally occupy, shade, and exhaust a wide strip ot land, and not produce suckers, but if well cultivated and managed, this willow would probably make an efficient barrier. Cuttings may be had of F. K. PHŒNIX, Bloomington, Illinois.]

SHEEP.—Do sheep do better confined to their yards when the ground is bare in winter, or to be allowed a good range of pasture or meadow land, with what hay they will eat and a small allowance of grain in both cases. E. F. *Forkston*, *Pa.* [Will some of our wool growers please give us their experience on this point.]

LAYING OUT A GARDEN.—*G. W. G*, *Lansing*, *Iowa.*—You will find plans in RURAL AFFAIRS, vol. 1, pp. 32–37, 270–274; volume 2, pages 23–31, 84–91, 237–250; vol. 3, pp. 28–31. The three volumes aro sent by mail, postpaid, from this office for $3, and we do not think you can procure so much information on this or other subjects for the price from any other source.

CLEANING GRASS SEED.—Will you please advise me as to which is the *very best* fanning mill for cleaning *Grass Seed*, as well as grain? C. *Fishkill.* [Nutting's Fanning Mill is the best we have ever used for this purpose, but we are not aware that it is anywhere in market—several of our friends having repeatedly written to tho General Agent at Utica without receiving any intelligence. There may be other machines as good, but we have not had an opportunity of becoming acquainted with them.]

HORSE-FEED.—Is it beneficial to wet ground feed for horses, providing they eat it with a relish when dry? W. H. W. [It will make very little difference. Some prefer to have it dry, thinking it digests better as they eat it more slowly.]

APPLES.—Is the Tompkins Co. King apple equal to the Baldwin in quality, and is the tree as hardy and productive? W. H. W. [It is usually regarded as superior in quality; is about as hardy, but not so productive.]

GREEN CROPS FOR MANURE.—As I sell all my hay pretty much, consequently making but little manure, I would desire to devise some method of plowing under green crops to keep up the fertility of my soil. What method would be advisable? Does it pay to let crops go back without plowing them under? W. H. W. [It is much better to plow the crops under than to let them die on the surface. Clover is the best; when two years old the roots are nearly as good as the tops, and assist much in loosening the soil. Turn as heavy a crop under as practicable, just after blossoming. Corn sown thickly makes a good crop for plowing under.]

OVERFLOWED MEADOWS.—Having a low-land meadow which generally overflows three or four times a year, and which consequently cannot be plowed, I would be pleased to know what you would consider the best way of enriching it. W. H. W. [The management must depend somewhat upon circumstances, and whether there is current enough in the overflowing water to carry off a top-dressing—also whether the overflowing is only in spring or at different times during summer and autumn. If there is no washing, an evenly spread top-dressing of manure or compost will produce a fine effect. The thin mulching afforded by a deposit from a muddy stream, has been known to triple the growth of grass. Sometimes when the land has been long in grass or is sod-bound, turning the sod with a plow and giving the new surface a copious seeding with grass may be most efficient, but generally we should prefer some kind of top-dressing, either with manure, mud, or evenly spread soil.]

ICE HOUSE.—I am going to put up an ice house above ground, say 12 by 24 feet, and 8 or 10 feet high. For the posts I will splice scantling on to locust, say 8 or 10 ft. scantling to 3 ft. of locust—the walls to be double. How would inch pine boards answer for the walls, and would it tend to preserve them from rotting to give them a coat of coal tar? My filling for a non-conductor will be powdered charcoal—how thick should it be, viz., how far apart should the walls be, that the charcoal may exclude frost, as I want to use part of it for storing vegetables and fruit in the winter? J. P. [The mode of building an ice house proposed by our correspondent is a good one, and the inch boards will answer the purpose. Nothing will preserve them better than coal tar, applied rather hot, in warm, dry weather, to the well-seasoned boards. Such a coating will be more especially advantageous and necessary, exposed to the moisture of the melting ice and wet saw-dust. Four inches of well pulverized charcoal will form an excellent non-conducting wall.]

FENCE POSTS.—Would it tend to preserve fence posts of white oak from rotting, to give them a coat of coal tar before putting them in the ground? J. P. *Pittsburgh*, *Pa.* [Well seasoned fence posts, with two or three successive coats of warm tar, especially at the part just above and below the surface of the ground, will tend effectually to prevent decay Doubtless if the posts could be soaked for some days in the tar the result would be more complete.]

YANKEE FARMER.—If Mr. S. W. HALL would have one of his Yankee Farmers in New-York city, and say where, in his advertisement, many would have a look at it and purchase who don't like the trouble of writing for details, and don't like to buy without examination. J. B.

GRAFTING APPLE, PEAR, AND CHERRY.—I wish to inquire through your excellent paper, the best means of winter grafting of apple stocks, including wrapping and packing away? Are pear stocks treated similar to the apple, or if the process differs, in what particular? Also, what is the best method of grafting the cherry? A. F. *Clayton, Ind.* [There is a full article on root-grafting, with several cuts, in the second volume of Rural Affairs, page 316. This mode of grafting succeeds admirable with the apple, but, under ordinary circumstances, mostly fails with the pear, and entirely with the cherry. On very favorable pear soils, however, by taking the root of the entire plant and performing every part of the operation well, including setting out, it is frequently quite successful. The cherry must be stock-grafted, or on seedlings, standing in the ground, and must be done very early in the spring, or before the buds begin to swell. The apple, pear, and cherry, may be all easily propagated by budding, if the stocks are thrifty and the buds matured.]

TRANSACTIONS N. Y. S. AG. SOCIETY.—*A. B. P.*—Complete sets of these volumes, of which twenty-one have now been published, are nowhere to be had. The only way we know of to get them, is to buy the odd vols. wherever you can find them. In this way, in a few years you may perhaps complete a set. We can furnish you eight or ten of the vols. at this time—price $1 per vol.

DRAINING.—Will some experienced person state in your columns, what length drains may be safely laid continuously—that is, before they are intersected by a main? I have a field which I desire to drain, that is about 80 or 90 rods in length and of a continuous slope suitable for draining. Will it be safe to lay the drains the whole length of the field, discharging into a main drain at the bottom, or will it be safer to intersect them with two or three mains? I do not recollect to have seen anything reliable on this point. My drains are laid with stone, there being no tile manufactured in this part of the State. P. *Belmont, N. Y.*

SORE MOUTH IN SHEEP.—One of my neighbors has just been showing me his sheep. A number of them have very sore mouths and lips. The lips are scabby, with considerable pus; inside of the mouth very red, with pimples. Can you tell what would occasion this, or give a remedy? I noticed that they had buckwheat straw for litter, and suggested this as the cause, but the owner laughed at the idea. Is buckwheat straw injurious to sheep? J. H. J.

MINERAL OIL.—Can you inform me through The Cultivator, whether the oil sold for lubricating purposes, is good to oil harness? It is said to be the offal obtained in the distilling or purifying of the oil obtained in the oil region of Pennsylvania. Some persons say it is good to oil harness, others not. One thing I know, that it is the best lubricating oil that I have tried yet. It does not gum. Its cheapness is one great recommendation for its general use. H. K [The mineral oils are not good for harness leather, as they injure the fibre.]

HORSE-FORKS.—Which is the best kind of horse-power hay-fork for unloading hay in the barn? H. R. *Wrightsville, Pa.* [There are several kinds of horse-fork for pitching hay offered for sale in market, all of which we believe to be good and efficient. We have used Gladding's, and found it particularly useful in lofts near the roof. A very good one (Palmer's) will be found advertised in this paper.]

TOBACCO.—Please answer in The Cultivator, what kind of tobacco is the most profitable to raise. A. Viridet. *Putnam Co., Ohio.* [We believe the "Connecticut Seed Leaf" is considered the best in this State and New-England. It can be procured of B. K. Bliss, Springfield, Mass., who will send one ounce by mail, post-paid, for fifty cents.]

POULTRY.—*A. N. H.* For the fowls you inquire for, address C. N. Bement, Bennington Centre, Vt.

AGRICULTURAL SOCIETIES

The United States Agricultural Society—if we may believe a report published in the National Intelligencer of Jan. 22d—held its annual meeting at Washington on the 14th ult., and elected the following officers for 1863:

President—Wm. B. Hubbard. Columbus, Ohio.
Vice-Presidents—Representing each State and Territory.
Executive Committee—W. B. Hubbard. (ex-off.,) Ohio, Chas. B. Calvert, Md.; Marshall P. Wilder, Mass.; J. H. Sullivan, Ohio; Isaac Newton, Penn.; A. H. Myers, Cal; Frederick Smyth, N. H.: Ben. P. Poore, (ex-off.,) D. C.; Le Grand Byington, Iowa.
Treasurer—Benjamin B. French. Washington. D. C.
Secretary—Ben. Perley Poore, Washington, D. C.

American Institute.—The annual election of officers of the American Institute was held at New York on the 12th inst. The following gentlemen were elected:

President—William Hall.
Vice Presidents—Dudley S. Gregory, Edward Walker, Sylvester R. Comstock.
Recording Secretary—Thos. McElrath.
Corresponding Secretary—John Torry.
Treasurer—Benedict Lewis, jr.
Finance Committee—Thos. M. Adriance, Jno. M. Read. Wm. S. Slocum, Thos. Williams, jr., Geo. Peyton.

Maine Board of Agriculture.—The Maine Board of Agriculture, consisting of one delegate from each county, at its late meeting at Augusta, made choice of the following officers:

President—Hon. Samuel F. Perley of Cumberland.
Vice-President—Samuel Wasson of Hancock.
Secretary—Stephen L. Goodale of York.
Messenger—James L. Martin of Danville.

The New-Jersey State Agricultural Society has chosen the following officers for the ensuing year:—

President—P. A. Voorhees, Somerset.
Vice-Presidents—First District, J. B. Jessup: 2d, N. L. Rue; 3d. G. W. Savage; 4th, Lewis Dunn; 5th, S. H. Condict.
Secretary—Wm. M. Force.
Treasurer—Benj. Harris.
Executive Committee—E. A. Daughty. Atlantic; Wm. Parry, Burlington; D. Holsman, Bergen; John Gill, jr., Camden; Dr. Leaming, Cape May; B. F. Lee, Cumberland; C. M. Saxton, Essex; Samuel Hopkins, Gloucester; N. N. Halsted, Hudson: George A. Exton, Hunterdon; J. G. J. Camphell, Mercer; J. S. Buckalew. Middlesex; Arthur V. Conover, Monmouth; Wm. Hilliard, Morris; Richard Conover. Ocean; Abram Goodwin. Passaic; Benj. Acton, Salem; J. V. D. Hoagland, Somerset: Thomas Lawrence, Sussex; C. S. Haines, Union; Isaac Wildrick, Warren.

☞ Mr. J. H. Reid, Fredericton, N. B., informs us that during the past season he has sold to Gen. G. G. Cushman of Bangor, Me., four superior Cotswold rams, one two-shear sired by "Champion of England," and three shearings by "Prince of Wales," bred by F. W. Stone, Esq. Mr. Reid adds: "We are at present making a good permanent show-yard and track for our Society (York county, N. B.) At an adjourned annual meeting, held on the 13th January, the following officers were unanimous elected for the year 1863:

President—J. H. Reid.
Secretary—Jos. S. Beck.
Treasurer—J. H. Beckwith.
Executive Committee—President, Secretary, Treasurer, Samuel Fleming, and J. L. Inches.

GOODRICH'S SEEDLING POTATOES.—
GARNET CHILI
PINKEYE RUSTY COAT & CUZCO.

I have a few hundred bushels of these superior potatoes, raised expressly for seed, on unmanured land, which I am prepared to furnish properly packed, and delivered to the Express Company or Railroad at Auburn, N. Y., at $1 per bushel, in quantities of not less than one bushel.

Orders registered as received, and acknowledged immediately by mail, and potatoes sent by first of April, or as soon as danger of freezing is past. Address JAMES H. JEWETT,
Feb. 19—weowtf—m2t. Moravia, Cayuga Co., N. Y.

PURE GROUND BONE.—
Farmers and Dealers will do well to send in their orders for BONE, early. Last year we could not supply the demand.

POUDRETTE.

Farmers and Dealers supplied with a pure article.

HOYT'S AMMONIATED
BONE SUPERPHOSPHATE OF LIME,

a substitute for Peruvian Guano. Sold at wholesale and retail, by
GRIFFING BROTHERS & CO.,
Feb. 19—w9tm2t. 60 Courtlandt-Street, New-York.

CONNECTICUT SEED LEAF TOBACCO SEED.

Grown by contract by one of the most successful growers in the valley of the Connecticut. Packets containing ONE OUNCE will be mailed, post-paid, to any address, upon receipt of 50 cents in postage currency or new stamps. Prices for larger quantities will be given upon application.
B. K. BLISS,
Feb. 5—w8tm2t. pringfield, Mass.

SELECT DESCRIPTIVE CATALOGUE OF
Fruit and Ornamental Trees,
SHRUBS, GRAPEVINES, ROSES,

SPLENDID DAHLIAS, BEDDING, HERBACEOUS, GREEN AND HOT-HOUSE PLANTS. Enclose one letter stamp for a catalogue ready March 1st. Address L. W. PUFFER,
Feb. 1—m3t. North Bridgewater, Mass.

RARE AND BEAUTIFUL FLOWERS.

If you wish to beautify your grounds the coming season, send for B. B. BLISS'

CELEBRATED SEED CATALOGUE,

The most complete work of the kind ever published in this country. It gives you a list of every variety worthy of cultivation, with full directions for culture. It will be sent to any address in the loyal States, upon the receipt of a three-cent stamp. B. K. BLISS,
Feb. 5—w8t.m2t. Springfield, Mass

ILLUSTRATED CATALOGUE OF
RARE AND BEAUTIFUL FLOWER SEEDS.

ROOTS. CUTTINGS, &c., by mail. Sent free to all applicants.
Address H. B. LUM, Sandusky, Ohio.
Jan. 1—w&m3mos

CHINESE SUGAR CANE—(IMPORTED SEED.)

The subscriber offers for sale a small quantity of the

Genuine Sorghum Seed,

Received from Messrs. Vilmorin & Co. of Paris, which may be relied upon as perfectly pure. Packages containing HALF A POUND will be mailed post paid, to any address, upon receipt of 33 cents in postage currency or clean stamps. B. K. BLISS.
Feb. 5—w8tm2t. Springfield, Mass.

WHY NOT GROW YOUR OWN TOBACCO AND COFFEE?

I have seed of the OHIO IMPROVED TOBACCO, a superior variety, of last season's growth. Also the GARBANZO, (Cicer arietinum)—this is one of the best substitutes for coffee. For a packet of EITHER of the above seeds enclose 25 cents; or for a packet of EACH, 45 cents, in United States Postage currency or stamps, and the seeds will be sent by mail, postpaid. L. NORRIS,
Jan. 29—w2tm1t. Windsor, Ashtabula Co., O.

BERKSHIRE BOAR FOR SALE—Eight months old, $15. Sows, 5 months old, $10.

Feb. 12—w2tm1t. W. J. PETTEE, Lakeville, Ct.

TO CHEESE MAKERS !

RALPH'S PATENT IMPROVED "ONEIDA CHEESE VAT,"

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Attention is called to the following letter from a farmer:

FARMINGTON, N. H., October 9, 1862.

JAMES R. DEY, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight-house; opened it; came to me with eyes wide open, and said: "YOU HAVE GOT CHEATED; THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then ommitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no preceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides DIRT. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me $4.20. He informed me afterwards that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them $5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it wil not kill the seed.

And again, it is not so expensive. My method is TO PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

Respectfully yours,
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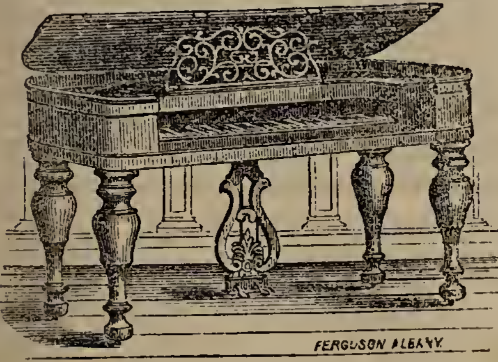

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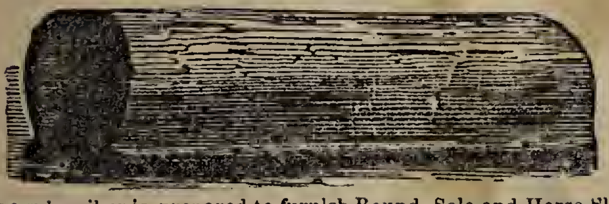

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VOL. XI. ALBANY, N. Y., APRIL, 1863. No. 4.

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J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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The Cultivator & Country Gentleman.

FARM ACCOUNTS.

During a recent visit to several intelligent and successful farmers, for information on some points of practical husbandry, we were struck with the almost entire absence of accurate accounts. Every thing was done by guessing or estimate. The amount of a crop per acre, the quantity of food given to fattening animals, or the result of any other experiments, had not been determined with weighing and measuring. Long experience may indeed enable some men to judge quite correctly in this way, although they cannot give satisfactory reasons for their opinions to others. But more commonly, this way of judging is very loose and inaccurate; and is accompanied with about such conclusions as the Hibernian reached, who said that he had observed that there had been a good many more women than men married the past year. Correct statistics or an accurate register, would probably have shown that he was mistaken. A similar register kept by farmers, would doubtless compel them to revise many of their opinions.

Every farmer, in order to be successful, should know just where he is making the most money, or realizing the heaviest profits. He then knows in what direction to extend his operations. Some of our readers may have heard an anecdote of the elder Bonaparte when in Egypt, which serves to illustrate this point. Accompanied by a number of men on horseback, he was riding on a dark night, on the broad sandy beach of the sea; suddenly by the rising of the tide, the water swept over the beach, and began to cover the horses' legs. The darkness of the night prevented them from seeing the direction of the land, and all was fright and confusion. Bonaparte immediately ordered them to form a circle with the horses' heads outwards. "Now," said he, "all ride forward—if you find the water growing shallower, ride on—if growing deeper, turn about and follow the rest." Farmers should pursue a precisely similar course; they should go in the direction of profits, and turn away from losses; but how can they determine, unless by accurate accounts? Many an unfortunate cultivator has been overwhelmed by the tide of insolvency, by not knowing in what direction to travel to reach solid land.

It is important for every farmer to know precisely what it costs him to raise a bushel of wheat, or of oats, corn, or potatoes; he can only ascertain this by keeping a distinct account through different years, with each field—the cost of manure applied, the interest of the land, and the aggregate amount of all the labor expended. He should also know, not by guessing, but by accurate measuring, what particular kind of management for each crop affords the best return. He should ascertain more than this—or whether the feeding of grain to animals affords him a better return than selling the same in market—in which calculation the manure of the animals should not be forgotten.

In a late number of the COUNTRY GENTLEMAN, a correspondent stated that the knowledge he had recently gained by registered experiments in the cultivation of the potato crop, would have enabled him a year ago to have realized a profit of five hundred dollars. A young farmer informed us that the information he had derived, in relation to the most profitable way of feeding cattle, from the weekly use of a platform scale, had more than paid for it in a single year. A general system of such experiments would amount to hundreds of dollars every year, and a handsome fortune in a farmer's life-time.

The principal reason why farmers omit such experiments, or neglect accurate accounts, is that they "haven't time." They come in at night from a long day's labor, and are too weary to give themselves any further trouble. It would be much more economical for them to labor personally a little less at the oars, and give a little more attention to the steering of the vessel. It would be better (although not necessary,) to hire a few days at five dollars a day. What would be thought of the banker, who should throw aside his books and say, "I haven't time to keep accounts, I am so busy with loaning money and making out bills of exchange." Or of the railway manager, who should say, "I am so much occupied with attending to the affairs of the road that I intend merely to estimate the profits, and guess at the dividends." The mariner might as well throw aside his compass and log-book, as the farmer his accounts. Is farming so much more profitable than other business, or at least so much safer, that he is tempted to dispense with this very important requisite, which, although not so essential as in the more hazardous business of commerce, would contribute immensely to his success?

Directions how to keep accounts are scarcely necessary.

All that the farmer need observe is to devote a page to each field or crop, or separate animal or flock, and place the expenditures in one column, and the profits in another. These accounts should be neatly and distinctly kept, and not in the bungling, mixed-up manner sometimes witnessed. In order that nothing may be forgotten, he should always carry a memorandum book in his pocket, and everything set down at the moment, to be copied off each evening. Many suggestions will occur to him during the day by way of improvement in cultivation and management—these suggestions should be immediately transferred to his memorandum book. Such a course as this pursued for a few years, would give him a vast amount of practical information which he could not obtain in any other way, and which would be worth to him many thousand dollars of solid cash.

◆

Assessed Value of Lands in New-York.

Some light worthy of note is thrown upon the Agricultural character of the State of New-York, in the interesting Report submitted to the Senate under date of 26th January, by Hon. T. C. PETERS, State Assessor. This report is "the result of personal examinations of each and all the counties by the State Assessor, during the four years of the existence of the office. It is the first time that he has been able to make the report embrace all the real estate of the State."

In personally investigating the assessed valuations of farming lands in different counties, it was found that no fixed standard was acted upon; that scarcely any two persons entertained similar opinions of value; that grades of land precisely similar, but separated by county lines, were very differently assessed, and, as a universal rule, "that the least productive lands bore a much higher valuation in proportion to their intrinsic value, than those of better quality." The variation existing in the agricultural value of different parts of the same county, presented a great obstacle in the way of adopting the same amount per acre as the assessed value of the whole county; but some system of generalization being rendered imperatively necessary, it was finally concluded to group the farming lands of the State in three natural divisions, and to rank each county with that division to which the greatest per centage of its lands properly belonged. But this division must not only be based upon the assumption that the "value of land consists in its power to produce the greatest value of raw material for human food or clothing, and at the least expense," but is also affected by the location and value of the land for other purposes; and the latter consideration introduces sub-classes in the first two divisions—several counties being thereby brought from the second or third class, to which they would otherwise belong, respectively into the first or second. The counties as thus classified, together with the equalized valuation placed upon their farming lands per acre, we give below:

I. Lands upon which Wheat is made the staple crop, to which are assigned the following counties:

Cayuga,	$45.00	Niagara,	$45.00	Seneca.	$45.00
Genesee,	40.00	Onondaga,	45.00	Wayne,	45.00
Livingston,	45.00	Ontario,	45.00	Yates,	40.00
Monroe,	45.00	Orleans,	45.00		

Under this head are also included those counties which, from their commercial or manufacturing advantages, or from their peculiar location, give such an increased value to their lands as to become a subdivision in the first class. These are:

Albany,	$50.00	Kings,	$220.00	Rensselaer,	$40.00
Columbia,	45.00	Oneida,	28.00	Richmond,	110.00
Dutchess,	55.00	Orange,	45.00	Suffolk,	17.00
Erie,	28.00	Queens,	80.00	Westchester,	100.00

With the exception of Kings and Queens, the soil for natural fertility in any of the last named counties does not compare favorably with those already placed in the first class. Yet their peculiar location, their easy access to the great consuming market of the continent, their commercial or manufacturing advantages, as evidenced by their large towns and denser population, enhance the value of their lands much beyond those of a more fertile soil, but less favorable situation.

The lands upon Long Island, included in the counties of Kings and Queens, are among the most valuable in the State. That they are not the most productive and populous, is not so much from any defects in the soil, the climate, or location, as by reason of the proprietors or occupants.

II. Lands best adapted for the Spring grains, and to Grazing and Dairy purposes, to which belong the counties of—

Chautauqua,	$20.00	Madison,	30.00	Schuyler.	$28.00
Chenango,	18.00	Montgomery,	40.00	St. Lawrence,	9.00
Cortlandt,	20.00	Otsego,	19.00	Tompkins.	30.00
Herkimer,	15.00	Schenectady,	50.00	Washington,	30.00
Jefferson.	20.00	Schoharie,	20.00	Wyoming.	30.00

Although these counties are widely separated, yet in their general characteristics of soil and topography, and consequent agricultural products and industrial pursuits, there is a marked similarity. The large area of wild and unoccupied land in Herkimer, Jefferson and St. Lawrence, has reduced their acreable valuation much below what the better and more settled and improved portions would otherwise warrant.

A sub-class is also attached to this division, consisting of the following counties, viz:

Greene,	$18.00	Putnam,	$40.00	Saratoga,	$20.00
Oswego,	18.00	Rockland,	45.00	Ulster,	20.00

The county of Oswego is included in this class only because of its city and the great commercial and manufacturing facilities which she possesses, over many of the first class counties. The position of the other counties, and not their soil, places them in this division, as but for location they would be in the 3d class.

III. Those counties most sparsely populated, and mainly dependent upon Grazing, viz.:

Allegany,	$15.00	Delaware,	$9.00	Lewis	$8.00
Broome,	15.00	Essex,	3.00	Steuben	14.00
Cattaraugus,	11.00	Franklin,	4.00	Sullivan,	8.00
Chemung,	22.00	Fulton,	14.00	Tioga,	20.00
Clinton,	9.00	Hamilton,	1.00	Warren	4.00

These counties are also widely separated, yet in their general characteristics, being more or less mountainous, or broken into rough and hilly surface, and containing large areas of heavy timbered lands, but partially accessible to the lumberman or hardy pioneer, they bear a marked similarity. Still those counties which form our southern range, are the most valuable, and will ultimately sustain the densest population.

In arriving at the amounts above given as a just and proper valuation of the farming land in each county, *in proportion to the others*, a personal examination was not only made, but various other sources of information were resorted to. Population was found to be in some degree an index to the capacity of the soil and the accumulated wealth of the people. The census reports of "agricultural products" and "cash value of farms" per acre, were compared with other data, also the returns of county assessors; and, beside all this, the several towns in each county were classified and appraised by themselves, "and thus the aggregate value of the farm lands in the towns ascertained, and by the towns a valuation for the whole county established."

The Report before us refers also to the fact that still more glaring irregularities in assessments, exist with regard to personal property than in the valuation of real estate. It is well known that the assessed value of all property is far below its actual amount, and yet we were hardly prepared for such an illustration of this, as Mr. PETERS affords, in his comparison of the assessed valuation of the State, with the amount of Insurance risks held by its citizens. The statistics of the Insurance Department show:

Risks held by Insurance Companies, Dec. 1, 1860, amounting to	$1,601,033,698
Deduct Life Insurances, about	130,000.000
Aggregate risks on property	$1,471,033,698
The aggregate valuation of the whole Real and Personal Property in the State, for 1861, was only	1,441,767,430

Or considerably less than the amount actually insured. It is also shown that in one county the returns of personal property are less than the amount of banking capital employed in the county; and, in others, a comparison of the banking capital with the assessments of personal estate, shows that the latter must be very inadequately reached by the tax gatherer.

There is a certain amount of taxation annually to be borne; if all parts of the State are assessed *on the same basis*, it will make no practical difference whether each citizen or each county is put down at one-third, one-half, or three-quarters as much as he or it is really worth; but when one person or locality is assessed at one rate, and another at a far higher or lower proportion, there is no equal distribution of the public burdens, and the wonder is that such a condition of affairs is tolerated with so few calls for reform. We have heretofore said that the annual collection of our Agricultural Statistics would be an important step towards reform, as regards the assessment of real estate—the valuation of personal property should be reached in other ways.

CROWDED SHRUBBERIES.

Much of the ornamental ground that is planted in this country, especially by novices, ultimately becomes a crowded mass of tall trees and small shrubs. The owner tries to bring into a small space what ought to be spread over a very large one. He may have seen a ten acre landscape garden, and he is resolved, by a sort of condensing process, to squeeze all its beauties into ten yards square. James Russell Lowell describes, in his account of Gordon Knott, a half acre occupied with a complex Tudor mansion, meadow and upland, water view and woodland, and everything else belonging to a wide domain. The water view, by necessity, had to be a pump and trough; the woodland,

> "Three pines stuck up askew,
> Two dead ones, and one live one."

In all such cases of attempting much in little, it usually happens that little labor as well as little [illegible] is used. Everything is apt to be done superficially. The ground is badly prepared and dug shallow. The trees are badly planted and half cultivated; they grow slowly for a number of years; and to compensate for want of shade, more are stuck in among them. After a number of years they get under way and ultimately produce an inextricable mass of brush. There is neither order nor beauty about them. The whole operation is very much like an attempt to include the different rooms of a house; the drawing room, dining room, breakfast parlor, library, nursery, hall, boudoir, &c., all within a ten foot cottage. Each would be about large enough to hold one chair and a small stove.

Instead of all this mixed up mass of blunders, let whatever is accomplished, be done clearly, distinctly and in a perfect and finished manner. A single flower bed, filled with beautiful and luxuriant plants, and kept with a neat finish, will appear far better than a whole acre flower garden, that is all confusion, with weedy walks, weedy beds, and sickly ornamental plants. Let the ground be well dug or otherwise prepared, at least eighteen inches deep; it should be uniformly mixed with manure, to impart a fair fertility. If any portion of it is to be lawn, the grass will not be subjected to the drought which burns in a thin and shallow soil, but will remain green and fresh throughout the summer. The trees or shrubs will grow rapidly, and their natural beauty be finely developed.

Many planters are desirous to have large trees at once, and with this view, procure the oldest or tallest from nurseries or elsewhere. These are checked if not killed by removal, and when they get under way again it is a long time before they make handsome dense foliage, if they ever do. When Sir Henry Stuart planted his world-renowned park of large trees, and before time had shown the failure of his experiment, it was shrewdly remarked by Loudon, that he would undertake to produce in ten years, a much better result, by planting small thrifty trees in deeply trenched and well enriched land, and by giving them the best cultivation. The sequel proved he was more than right. We wish to urge particularly on the present occasion, on every planter, the importance of understanding fully beforehand, the effect of every tree which he plants. He should know its ultimate size and appearance, and not as is too often the case, judge merely by its looks in the nursery row. The mistake that is commonly made is in planting out large trees as if they were shrubs. If the grounds are small, shrubs or small trees alone should be planted, and the proper and full space given for each. If after the planting is completed, the grounds appear too meagre, others may be placed temporarily between, but a distinct record should be kept, in order that those which are temporary may be removed at the right time. A Norway Spruce is a beautiful tree when only three or four feet high, and we have seen them set out in small gardens, as if they were never expected to grow much larger, when in truth they may be fifty feet broad in twenty years, if the soil is good for them.

MUCK AND ASHES.

Messrs. Editors—I am anxious the coming spring to compost a quantity of muck with ashes, and wish to know how to do it with success; what proportions and how long before using they should be prepared; how to cause the m[illegible] generate sufficient heat and no more, and in fine, whether I may look for recompense for my labor, or whether the mass will come out simply muck and ashes again. My great and constant difficulty is that I am unable with the best knowledge I possess, to make enough plant food for yearly use, and wish to know how it can be best increased. W. J. P.

The proportion of ashes needed to mix with muck, cannot be accurately prescribed, as the quality of the muck, its sourness, woody fibre, &c., varies much in different localities. It may be from one-tenth to one-third. Our own experience has not verified the high value of this mixture which some claim for it. Ashes is usually an excellent manure in moderate quantities, and muck is also very useful; but we have never found the mixture at all equal in efficiency to stable manure. In some cases or conditions of soil, it would doubtless be more useful. Ashes and muck, mixed, will not produce much fermentation. We much prefer using muck with manure, either in composts, or to spread in cattle yards.

COSTIVENESS IN HORSES.

In answer to an inquiry in a January number, in regard to costiveness in horses, my cure is to give an ounce of fine cut tobacco. Wrap it up in paper—hold the horse's tongue out with one hand, and with the other take the paper of tobacco between the thumb and finger and push it down. In most cases this will be sufficient, and will have the desired effect in six or seven hours, but if it should not, give another dose of the same amount, and take my word for it you will be pleased with the result, for I know it to be good by experience, having often given it to my own, and have seen it tried hundreds of times in England. John Scott. *Newfane, N. Y.*

BUYING A FARM.

A farm should be the home, and its management the business of the owner. It is true one may be hired or worked on shares, but very seldom do we see land cultivated under such circumstances, managed in a way worthy of the name of farming. Ownership seems necessary to a proper appreciation of the characteristics and powers of the soil. We again see a movement in the real estate market—sales and purchases of farms, and it suggests some thoughts on what one should look to and seek for in buying a farm.

Considered as the homestead and abiding place of the owner, a farm should be pleasantly and conveniently situated. The health, comfort, and happiness of those who occupy it, are of the first importance; so every social and physical influence which bear upon them should have due weight in determining a choice. A healthy locality should be considered far above a fertile soil. The thousand things which promote home comfort will compensate for many pecuniary disadvantages. Happiness, the enjoyment of social privileges and blessings, go far to make a sterile soil of greater value than the most productive, where a moral miasma prevails. A situation of easy access to the great routes of business and mails, with educational and religious privileges of a high class, would be considered of the highest importance by the intelligent and cultivated man, who would enjoy the best privileges of American life and society.

Another thought. The new location should be suited to the tastes and character of the purchaser. Men of mature age are usually of fixed habits and dispositions, such as do not change with a removal to another home. They should find then in the new, the best pleasures and conveniences of the old, and as many improvements as may be. But if circumstances require any considerable change, it should be remembered that to make it will require some exertion and energy—they must expect this, or meet disappointment. Their children may find a happier and better life in the new locality—the sacrifice of old habits can be made for their sakes.

As a business the requisites of successful farming depend to a considerable extent on the choice of the farm. It should be one which the owner has the means and the understanding to manage. One cannot put all his capital in land, and expect to farm profitably on credit and makeshifts—often so cramped that all improvements are out of his reach. As well might the merchant put his whole capital into a fine store, reserving nothing to purchase the goods wherewith to fill the shelves and attract customers. It requires as much capital to stock and carry on a farm generally, as to pay for the land itself. The farmer needs capital to keep his credit good—to take advantage of the markets in buying and selling, and in making seasonable improvements. A farmer loses money who is compelled by want of money to sell his crop at the lowest stage of the market, or who cannot command extra labor in any emergency of the season, or who is obliged to wait for years to get a few hundred dollars to drain a swamp that would pay him the interest on a thousand dollars as soon as the work was done.

The farm should be suited to the products which it is desired to devote it to. The taste and experience of the owner will incite him to undertake certain branches of farming, but some soils are best calculated for grain growing, others will produce extra fruit, others have grass and water for the dairy, or stock generally, while occasional locations are to be found where all these may be combined to a greater or less extent. These things should be taken into account in buying a farm.

Then market facilities are to be considered. In the management of a farm much depends on this, and it is a matter of moment whether it will cost five cents or fifty to bring a dollar's worth of produce to the consumer. In the vicinity of large towns the production of garden crops is often very profitable, while at a distance from market no dependence can be put on such products. The one can grow a large variety to dispose of—something every week bringing in the cash—while the other must necessarily devote himself to a few leading articles, his harvest occuring but two or three times a year. But the recent great increase in the means of transportation has done much to equalize the value of farming lands throughout the country, especially when devoted to the more valuable and least bulky articles of produce.

Again, a farm should possess in itself good capacity of production, so that it may be readily and profitably managed, in such a way as to retain and increase the fertility of the soil. A farm easily worn out—a course of management rapidly exhausting the fertility of the soil, would soon bankrupt the farmer; his business would no longer be remunerative; his home and his comforts would soon pass away. Hence it is not all to buy a farm; one must also have the skill to manage it rightly. To do business profitably, one must understand business principles and carry them out, and nowhere is this more important than upon the farm. The question is often debated whether farming is really profitable or not, but could we only see the fortunes lost by the careless habits of those who pursue it, the decision would soon be arrived at. B.

THE HOP-YARD.

Messrs. Editors—The first didactic poem in the English language, had Agriculture for its theme. It was written by Thomas Tusser, who was born about 1523, and died in London in 1580. It was published in 1557, and consists mainly of practical rules for farming; the verses, many of them, as rude as the methods of tillage then in vogue. The title of the poem was "A Hondreth Good Points of Husbandrie," which was afterwards expanded by other writers, and continued to be published in successive editions down to the year 1710, when the last appeared, entitled "Five Hundreth Points of Good Husbandrie."

The following gives directions as good for this year as for three hundred years ago, while at the same time it will serve as a favorable specimen of the poem.

Red Mills, Putnam Co., N. Y. R. H. RICHARDSON.

The Hop Garden.

"Whom fancy persuadeth, among other crops,
To have for his spending sufficient of hops,
Must willingly follow, of choices to choose,
Such lessons approved, as skillful do use.

Ground gravelly, sandy, and mixed with clay,
Is naughty for hops, any manner of way;
Or if it be mingled with rubbish and stone,
For dryness and bareness, let it alone.

Choose soil for the hop, of the rottenest mould,
Well-dunged and wrought, as a garden plot should;
Not far from the water, but not overflown,
This lesson, well noted, is meet to be known.

The sun in the South, or else southly and West,
Is joy to the hop, as a welcome guest;
But wind in the North, or else northerly East,
To the hop is as ill as a fay in a feast.

Meet plot for a hop-yard once found as is told,
Make thereof account, as of jewel of gold;
Now dig it and leave it, the sun for to burn,
And afterwards fence it, to serve for that turn.

The hop for his profit I thus do exalt,
It strengtheneth drink and it favoreth malt;
And being well brewed, long kept it will last,
And drawing abide--if ye draw not too fast."

Introduction of Improved Blood by Crossing.

What better testimony can be afforded to the value of Improved Blood, crossed upon the common cattle of the country, than is found in the weekly reports of all our principal Cattle Markets? And we cannot but think that investigation in our Dairy Districts would also prove that it is the cross-breeds which are yielding the largest returns in Butter and Cheese, as elsewhere they are in Beef. It is nothing new or peculiar to the farming of this country, that such should be the case. The experience of English farmers and feeders points so strongly to the same result, that those competing for the prizes at Smithfield and Birmingham have of late more than once resorted to cross-breeding with success, as a means of winning; and no traveller who has examined with a practiced eye the common farm stock of that country, can fail to have been struck with the evidences of improvement it displays, derived from the use of pure blooded males of some of the standard breeds.

Mr. Coleman, a very intelligent writer on agricultural subjects, and if we are not mistaken the head manager of the extensive and highly practical farm operations at Woburn Abbey—contributes an article on the subject of Cross-breeding to a recent number of the Journal of the Royal Agricultural Society, of the truth of which American experience affords illustrations quite as ample as those he adduces from the farms of England. He gives it as his unqualified opinion that in the selection of beasts to fatten, crosses may be invariably taken to the best advantage—that they "will best pay the breeder, and be most sought for by the purchaser who intends to fatten." So much is this a recognized fact that in Scotland the polled Galloways, as well as the Ayrshires, West Highland, and other breeds, are now crossed with Short-Horns to such a degree "that the pure breeds are very rarely to be met with, except at the shows of our Agricultural Societies." In the west of England a Hereford cross is very common; and there, and throughout the dairying counties, "many of the small farmers who keep two or three cows manage to send them to the pure bred bull of a wealthier neighbor," and it is conclusively proved that "a few pounds laid out on a good bull is an act of strict economy."

In his own experience, Mr. Coleman has mainly tested a cross of the Hereford upon Norfolk cows; "these half-breeds," he says, "far exceed my most sanguine expectations; * * at our annual sale of fat stock, held here every Christmas, I find if I have a crossed ox it invariably makes £2 to £3 more than the pure bred ones; and the reason is that the butchers tell me, they weigh so much better, are more fleshy, and give their customers greater satisfaction from the fact of the fat being better mixed with the lean. I have had cross-bred steers three years old making from £30 to £40 each, their dams being small Ayrshire cows, and the sire a pure Hereford bull."

As Mr. Coleman has thus no prejudices from his own interest, or otherwise, in favor of the Short-Horns, we may receive his opinions as to the results of a cross from this breed, with great confidence, and we may add that the statement he makes is most fully borne out in this country. He says:

"The majority of the cross breed cattle we meet now-a-days partake more of the character of the Short-Horn than anything else, *so that to this breed belongs the credit of having done most towards supplying food for the million.* No matter of what sort or amalgamation of sorts the cow may be, a cross with a pure Short-Horn bull rarely fails to make an improvement in size, quality, and fattening properties, if not in the milking powers of the produce."

In conclusion, Mr. Colman thinks that, as between pure animals of two improved breeds, the *first cross* is an improvement, while the result of *farther crossing* is likely to prove inferior to either of the pure breeds. And as to the general stock of the country which "cannot be said to belong to any pure breed," he urges strongly that their owners "cannot do better than cross them with a bull of a pure breed," particularly "where a farmer is not in a position to keep high-priced stock, either from want of means or of proper shelter for them."

The advice given by Mr. Coleman is exactly in accordance with the views urged by the Cultivator and Country Gentleman, for the past twenty-five or thirty years. And we allude to the subject now, not only because our own arguments find so strong a supporter in the author of the article referred to, but also because it is our confident belief that *now*, while our farmers enjoy greater ease than usual in money matters, no investment is likely to pay them better than that which shall bring a well bred bull upon their farms or within the access of their neighborhood. If individual resources are insufficient for the purpose, a club should be formed to purchase a first class animal, for the services of which a reasonable sum should be paid. Some of the Massachusetts Farmers' Clubs have repeatedly taken this course, to the great advantage of their members, and we suggest the example to the Farmers' Clubs of this State. There are now good bulls which may be had at reasonable prices in almost every part of the country. The supply we think, in fact, can never have been better than at the present time, nor the opportunities of purchase so great—prices and the abundance of money both taken into consideration.

CURING HAMS WITHOUT SUGAR.

"E S. H." of Niagara Co., says, in the *Rural New-Yorker*, that he cures hams with simple salt and water (brine) equal to any treated with sugar or molasses and salt. He is careful to place them in the cask shank downward, and while smoking has them on racks, with the rind down, instead of hanging up in the usual way, "thus both the pickle and the smoke retaining the juices of the meat." Another correspondent, "P. P. B." of Batavia, thinks his recipe not only the cheapest but very best in the world: "For every 16 pounds of ham take one pint of pure salt, and one ounce of saltpetre. Pack in a clean oak cask, sprinkling the salt between the layers of meat. Dissolve the saltpeter and pour it over the the whole, adding sufficient pure water to cover (soft water is best.) Let them lie *under* the brine six weeks, then smoke."

How to Cure Pig's Feet, &c.

You kindly invite contributions. Nothing occurs to me at present save an item in domestic economy. As physicians and the affectedly fastidious, are increasing their Jew-like abhorrence of swine meat, I think anything tending to purify it of its offensive greasiness or oleaginous dyspeptic grossness, worthy of notice, and mention my practice, to wit: Trim as much fat from the head and elsewhere as possible, for lard—put all legs and residue of head in ham brine. Thus you will have your sausage meat less unhealthy and avoid souse—the head and legs making capital boiled dishes with vegetables.

To those who do not relish head-cheese, this is quite an improvement. H. H.

Rutland, Vt.

[For the Country Gentleman and Cultivator.]

CULTURE OF HEMP.

Messrs, Editors—In the Co. Gent. of the 12th inst. a correspondent (J. C. A. of Iowa) makes an inquiry in regard to the cultivation of hemp. As your reply is not full, and in one or two particulars does not strictly accord with the practice of the hemp growers of Kentucky, I will endeavar to answer more fully the request of your correspondent.

The hemp that is grown in Kentucky, (the largest hemp growing State in the Union,) is chiefly dew-rotted, and until the breaking out of the rebellion was mostly manufactured near where it was grown into bale rope and bagging. For many years the United States government has made efforts to encourage the farmers to water-rot their hemp, but comparatively few of them have been induced to abandon their early custom of dew-rotting, notwithstanding the price of the water-rotted article is largely in advance of that which is dew-rotted. It is probable that the quotation of prices to which your correspondent refers, are for the imported water-rotted hemp.

Soil and Preparation.—Hemp requires a dry, light and rich soil. It is frequently permitted to follow hemp on the same land, when a similar course with most any other crop would not be tolerated by a good farmer. Hemp is said to be less exhausting to the land than the cereal grains, and it leaves the ground in more perfect order for the same crop than any other. If hemp is sown on sod land, it should be broken up in the fall, and again plowed in the spring; but it is better to follow a well cultivated crop of corn. The first plowing should be deep; it should afterwards be cross plowed, rolled and well harrowed.

Seed and Time of Sowing.—About five pecks of seed is the usual quantity per acre. It should be sown broadcast. If put in drills at the distance apart suggested in your reply, it would grow too stocky, and be liable to branch, and render it unfit for the break. The seed should be sown upon freshly harrowed land; after the seed is cast it should be again harrowed, and then cross harrowed.

Time of Sowing.—The time of sowing hemp varies, like all other crops, according to the opening of the season. In the latitude of Kentucky the proper time of sowing generally ranges between the 20th of April and the 15th of May.

Time of Cutting.—The proper time to cut hemp can be determined by the appearance of the staminate plants. These mature first, and when they have cast most of their pollen, and begin to assume a yellowish appearance, the crop may be cut. Hemp is cut with a knife made expressly for the purpose. The blade is about 15 inches long, and standing at a little more than a right angle with the shank; the shank also has a slight angle in it—the whole shank and handle being about twenty inches long. To cut hemp with the greatest ease, it is important that the various requisite angles of the blade to the shank should be maintained. In cutting, the hemp is grasped with the left hand and arm, and spread upon the ground as the cutting proceeds. It is permitted to remain on the ground, exposed to the sun, a day or two, when it is put up into loose shocks. When thoroughly cured it is bound up in convenient bundles and stacked. In the fall it is again spread upon the ground for rotting like flax; and in the latter part of winter and in the spring, it is dressed during dry weather in the field; the process being similar to that of breaking and dressing flax. It is however, after being rotted, again put up in shocks, to remain until favorable weather for dressing. When sent to market, requiring any considerable distance of transportation, it is put up in bundles, similar to hay.

Water Rotting.—In order to encourage the water rotting of hemp, the U. S. government established an agency in Lexington, Ky., and offered the highest price for all the water rotted hemp of good quality that could be raised, it having been ascertained that the American hemp was superior in quality and strength of fibre to the imported article. Yet, notwithstanding the high price paid for the water-rotted article over the market price of that rotted in the ordinary way, the government has never been able to obtain but a very small quantity of American grown hemp for naval purposes.

The most proper season for economical and complete water-rotting, is immediately after the hemp is sufficiently cured. If done at this season, the labor and expense of stacking may be saved. At this period, too, the hemp rots much more speedily than in cooler weather. The time required for rotting is governed entirely by the temperature of the water. It is by putrefactive fermentation that the process is accomplished, and the most suitable temperature for this is from 60 to 65 degrees of Fahrenheit's scale.

In the month of September it will require from five to eight days to complete the process, and later in the season, longer, according to the degree of temperature.

Method of Constructing the Vats.—Vats for water-rotting hemp are constructed where a supply of water can be obtained from an upper spring, so that the water may be let on and drawn off at pleasure.

Vats or pools are sometimes made by simply digging into the earth. But the best vats are constructed of brick or stone, and cemented with water lime. They should be four feet deep, and of the length and width suited to the quantity of hemp to be rotted. Sixteen feet wide by seventy-five feet long would be convenient dimensions. In laying up the side walls, two upright pieces of timber to each tier of hemp, should be permanently secured to the walls; through these uprights mortices are made, into which cross timbers are keyed to confine the hemp down when the water is let in. Judgment and experience must determine when the hemp is sufficiently rotted. When the rotting is completed, it is spread upon the grass to dry, preparatory to dressing.

When the hemp is dressed for government use, it is put up in well prepared bales of about 400 or 500 pounds each, and covered with bagging and secured with bale ropes.

Seed.—The most reliable seed may be purchased in Louisville, Ky., or St. Louis, Mo. But a very small portion of seed sold in these markets is for sowing; thousands of bushels are sent abroad for birds. In buying seed for sowing, none but that which has been grown for the purpose, and *cultivated*, should be received, and that of the *last season's* growth. When the crop is grown for seed, it should be planted about the first of May, in rows about three feet and a half apart, and the hills two feet distant. It should be carefully hoed while young, and cultivated through the season like corn. The plants should be thinned to one or two in a hill, and when the early blossoms appear on the staminate plants, these should be chiefly pulled up, leaving only an occasional plant to fertilize the crop.

I have but briefly touched upon many of the important points connected with the growth and preparation of this crop, fearing that I might overtax your columns.

H. P. B.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Scours in Sheep.

Take about six inches of a common tallow candle, open the sheep's mouth and shove it down her neck. I have never known it fail of a cure. It may sometimes need the second dose.

W. P.

To Kill Lice on Calves.

Take a good sized tow string—grease it well—then rub on it a quantity of unguentum and tie it around the calf's neck, and the vermin will soon skedaddle. I think it perfectly safe and effectual, as I have tried it repeatedly in cold winter weather.

W. P.

[For the Country Gentleman and Cultivator.]

DAIRYING AND ITS PROSPECTS.

Important Requisite for Improving the Quality of Cheese.

Editors Country Gentleman—Among the several branches of farming, cheese dairying to-day holds a prominent place. The economy of making use of cheese for food is imperfectly understood. Professor Johnson says that a pound of cheese is equal in nutritive value to two pounds of flesh. The Europeans seem to be better acquainted with this fact than our own people. With us, cheese is regarded rather as a luxury, while in England it is considered one of the substantial articles of food, and it is not uncommon for workmen there to make a full meal on bread and cheese alone. Why has not cheese been introduced into our army rations? It is easy of transportation, highly nutritive, would be regarded as a luxury by the soldiers, and is promotive of health as well as strength. On the score of economy, it would appear to commend itself to our commissary department.

Cheese-dairying in these times is *especially* profitable, because cheese commands foreign gold, and gold is at a high premium. The foreign demand for cheese has been increasing year by year, (with great rapidity since 1858,) until it has reached a point when the whole product of our country can now be marketed abroad.

During the year 1861, according to English statistics given by Mr. Boules of London, ninety millions pounds of American cheese were imported into Britain. Considerable more must have been sent abroad during the year last past; and as far as market and prices are concerned, our dairymen are not dependent on home trade—it is our brethern across the Atlantic that make the prices—they desire our cheese, and are willing to pay for it, if the *quality* be made satisfactory. In 1850 the census gives a little over one hundred and one half millions of pounds of cheese, as the total product of that year in the United States. In 1860 it gives 48,543,288 pounds as the product of the State of New York. So active has been the exportation of cheese during the last year, that Philadelphia and New York, (the great marts for American cheese,) are now comparatively bare of cheese for the spring trade. I will venture to say, that these cities, for many years past, have not been so empty of cheese as *now;* and the spring trade must open at a high figure. Last fall, some of our factory made cheese sold by the quantity at the factory, at 14 cents per pound, and some of large size as high as 17 cents.

With the present prospects, together with the rates of gold and bills of exchange, it is believed that "tip top" cheese will readily net the manufacturer 15 cents per pound, for shipments of early made. At these prices it will be readily seen whether cheese dairying is a "living business." A cow yielding annually 600 pounds cheese, turns $90; 20 cows bring in $1,800; 30 cows $2,700, and 60 cows $5,400.

But to realize high figures, the finest quality of cheese s required, which to the uninitiated is often for the most part, no easy matter to produce. Some dairymen practice all their lives, and are unable to make a strictly *prime dairy*. Ask any of our great cheese dealers—the Perrys, Harry Burns, Mr. Farrington, the Ives,—all Herkimer county men who have contributed to build up the European trade in this staple—and they will point out such dairies by the score.

Many dairymen work too much by guess, and without fixed rules of manufacture, depending entirely on judgment and feelings in conducting their operations. This is all well enough and proper, as far as it goes, but if uniformity is desired, the aid of science must be called in.

I desire to call the attention of your readers at this time, to but one point only in the manufacture of cheese, a point which, if observed and practiced upon, will for the present year alone, save in almost every dairy more than enough to pay the subscription price of a good agricultural paper *for years*, and in many instances for life. It is with regard to the proximate acidity of milk when about to be manufactured into cheese. Every dairyman knows that spring and fall cheese are liable to be poor in quality—often *so poor* as to be nearly unsaleable, or selling at one-half and one-third the rates of a choice article. Such cheese has not been properly made. I refer more particularly to cheese that is soft—where the curd was difficult to cook, and which could not be made to assume in curing, a firm, solid, close texture, but will be "huffy and springy." Cheese of this character often occurs in first class dairies of the best dairy districts, and dairymen generally are unable to point out the true cause, though the general excuse is, that there was a "mistake somewhere in not cooking the curd sufficiently." The whole difficulty grows out of the condition of the milk—it is too sweet when coagulated, and in that condition can not be made into first class cheese, *after the ordinary methods.*

Such milk must be treated with sour whey.

The use of sour whey, from time to time, in spring and fall, we deem imperative, if uniform fine flavor and choice quality of cheese is desired.

I do not propose in this article to discuss the reasons *why* this acidity is necessary, or to point out the precise degree necessary for the best results—this last must be learned by experience; but we shall give some data that will serve as a general rule or basis to operate on, and by which, the intelligent dairyman may soon, by a little practice, learn the proper condition of milk and test the matter for himself.

When the night's milk in the morning stands no higher than 61°, the morning's milk may be added, and at the time for putting in the rennet, some whey should be added and stirred in to the mass, in the proportion of 2 quarts whey for every 60 gallons milk.

If the night's milk stand below 60°, a larger quantity of whey must be used, and the quantity of whey always graduated according to degree of sweetness of the milk. If the night's milk stand at 65° or above, it may have acquired sufficient acidity to render the use of the whey unnecessary.

The whey used should be distinctly acid, about like that coming from a sweet curd in summer and standing 24 hours. Milk treated as above will form curd of an entirely different character from that which has acquired *sensible acidity* at the time of putting in the rennet. The curd from milk treated with sour whey will be all that can be desired, will work down evenly and without trouble, the cheese curing with a firm compact texture, retaining more of the butyraceous matter, and having that mild, rich, pleasant flavor, peculiar to first class cheese.

Little Falls, Herk. Co., Feb. 16. X. A. WILLARD.

CURING BROOM CORN.

In answer to your correspondent H. H. M., as to the best method of curing broom corn out of doors, I would say I have had some experience in the matter. If he is obliged to cure his brush in the open air, I would recommend him to get light scantling, say 2 by 2, or narrow boards will answer equally as well. Use two strips for each row of brush—elevate it from the ground sufficiently to allow a free circulation of air beneath, and turn it once a day. At night let two men—one at either end—remove brush and poles or boards, and tier them up in some convenient place under shelter, as the heavy dews tend to retard the curing and stain the brush. I would recommend to H. H. M., however, if he has a stable, without stalls, or a hay loft not entirely filled, that he can allow a circulation of air through, a small expense in erecting a frame and spreading brush as before, on edging in tiers, 6 to 8 inches space between, will be less trouble, and cure his corn more satisfactorily. If he intends to continue long in the business, I would recommend him to build a dry-house. S. Sheldon. *Schuylerville, N. Y.*

HIGH WAGES AND HIGH PRICES.

Every one desires to receive high wages for his labor, although his gains must come out of another man's pocket. The same remark is true of high prices. There are certain instances however, where farmers may receive high wages and high prices, without any corresponding deduction to be made on another man's account. These instances every good farmer should well understand. If they are small, they are quickly accomplished; if larger, the advantage is of a correspondingly greater amount.

Many laboring farmers would be glad to get winter work at one or two dollars a day, and five or ten times as much as the usual price for products or materials. In summer, if their dollar a day laborers could be made to yield them five dollars a day, they would regard it as a splendid speculation. We shall mention a few instances, where at least this amount of gain might be obtained. Their observation and ingenuity will point out many others. Among some of these examples, which may be acted on at the present time, we may mention the following: A large number of farmers are in the practice of foddering their cattle by throwing their hay upon the ground; whenever the yards are muddy, which in many places is nearly one half of the whole foddering season, the cattle tread a considerable portion of the hay under foot, and it is entirely wasted. Ten to twenty per cent. is not an unusual loss; and the farmer who feeds out fifty tons of hay in a winter, wastes annually therefore five to ten tons of hay—worth at a moderate estimate from fifty to a hundred dollars. Two or three days labor, and two or three dollars worth of lumber or poles, would furnish good feeding racks and entirely prevent the waste. It will thus be seen that if his labor is rated at five dollars a day, and the lumber at triple the usual price, he will make an actual saving in a single winter, to say nothing of a series of years to come. We advise every farmer who has an opportunity of receiving such high prices, to seize on it at once, without any fear or conscientious scruples of robbing any other man's pocket. Another instance; we know a farmer who feeds 50 or 60 head of cattle from stacks in the open fields, exposed to sweeping winds and snow storms. The additional food required to keep up their animal heat, and the loss of flesh, which their suffering condition occasions, we are satisfied amounts to at least one-third of all that is fed to them. If therefore they consume a hundred tons of hay each year, thirty-three tons, equal to some three hundred dollars, is yearly thrown away. Good well made barns or sheds would doubtless pay for themselves, several times over the next dozen years; but in the absence of these, a few days labor in providing temporary shelter, would probably be rewarded at the rate of some ten dollars a day or more. Rough built sheds with straw roofs would pay for themselves and save enough in two or three years to erect neat, comfortable, substantial barns or sheds.

There are some smaller opportunities for similar profits which should not be overlooked. A neighbor drives his cattle daily half a mile to water; the labor which this requires would in a short time, enable him to sink a tub at a spring, where they could partake at all times, without the injury of over drinking once a day, and thirsting all the rest of the time. A gate for want of a good latch, is left swinging in the wind, and in a few months is beaten to pieces; thus for want of a simple latch, the gate is destroyed. A chimney becomes filled with soot. But the owner could not devote an hour's labor at the right time to scrape or burn out this accumulation, in consequence of which it took fire in the night, threw burning cinders from the chimney-top to the shingled roof, set fire to the dwelling, and consumed one or two thousand dollars. We advise those who have not attended to their sooty chimneys to spend an hour or two when the roof is wet, in removing the difficulty.

We need not continue these examples, except merely to name a few more instances, where similar benefit may be derived; such as making strong yard fences to prevent the escape of cattle into mischief, or the ingress of intruders; closing any openings through which cold air sweeps into stables, kitchens or under the floors of dwellings; providing warm, dry, clean beds for store hogs in winter; sheltering and painting tools, and keeping them in best working order; preventing the waste of manure; securing grain from rats; attending constantly to the comfort of all animals in winter, feeding them regularly, &c.

There are many instances of a similar character occuring during the summer season. Sometimes a few days labor in underdraining, will relieve a wet portion of ground of its surplus water, and be worth many dollars. Destroying weeds among root crops when only an inch high, is not the tenth of the labor required when they have grown a foot, to say nothing of the loss in the crop, which an over growth of weeds occasions. We have known a crop of oats diminished one-half in amount, by being sown a fortnight later than another alongside. A few hours attention in procuring the best seed corn, has sometimes resulted in a hundred bushels increase in a ten acre field. A similar care in breeding from the best swine has saved a like amount in feeding, and double its value in the quantity of pork. The best plow, that runs a fourth easier than a common one, will save twenty-five days of team labor in a hundred. There are many other examples, which the intelligent farmer will discover in the course of a season, if he is attentive to all the sources of information which practice and reading point out to him.

* * *

STRETCHES IN SHEEP.

I saw in The Cultivator, the remarks of Mr. McI. and others, concerning sheep stretches. I send you my experience for about fifty years. When you first discover the stretches, take the sheep, and you will find a woolly tube in each foot, right above the hoof, in the center of the parting top of the hoof, between the leg; there you will find an issue something like the issue in swine. Take a sharp pointed knife and insert the blade about half an inch, and rip the knife right out in front of the sheep's foot. Generally it will cure them. I have sometimes had to open them three times and fill the tube with fine salt.

I keep a small flock of sheep. I have had almost every winter more or less affected with the stretches. It will generally attack as good sheep as any in the flock. If they are not attended to, they will not eat, and will die. One of my neighbors had a sheep that had the stretches. I asked him why he did not cure that sheep? He said it was nothing but a whim. The sheep continued to stretch several days, having eaten nothing since taken. The issues were pale and swollen. I inserted my knife into those woolly tubes, and ripped them out and filled them with salt. He came to me and said, my sheep, in less than one hour after your operation, was up and eating. In a few days the sheep was as well as the rest of the flock.

Columbia, Ct., Feb., 1863. S. LOOMER.

NEW SEEDLING FRUITS.

Although we already have a vast catalogue of fruits, yet we are not quite satisfied with any one of the great multitude. A single apple or pear cannot be named that has not some defect or deficiency, either in flavor, growth, productiveness or hardiness. While, therefore, we have so many, we wish to obtain others that are better, or at least a larger list from which we can make a more perfect selection. Hence, it must be a long time before we have ceased to raise new varieties.

A late number of the Magazine of Horticulture, republished the interesting statement of Thomas Rivers, who has experimented very extensively, both with cross fertilization and simple re-production, and who raised no less than 80,000 seedling plums. Very curious results were thus obtained, a few of which we briefly mention. Some varieties of the pear prove to be remarkable for reproducing nearly the same. Among them the Passe Colmar, Glout Morceau, Marie Louise, Capiaumont, and above all Josephine de Malines. A large number of seedlings were obtained from the Ne Plus Meuris, a late winter variety, with the hope of adding to the list of long keepers. The young trees closely resemble the original, but, when they bore, all the fruit ripened in autumn. The same result was usually obtained from seedlings of winter pears. A seedling Aremberg resembled its parent but ripened in August. An excellent seedling. Winter Nelis, ripened in September.

It is a common opinion among casual observers that the different varieties of the peach are reproduced with scarcely a variation. We have generally ascribed this opinion to a want of accurate observation, and noting nice shades of difference. It appears, however, from these extensive experiments, that while some varieties scarcely vary in their seedlings, others give widely different results—in some instances, peaches producing nectarines and nectarines peaches—and clingstones yielding freestones and *vice versa*. The Early York (serrate) was found generally to vary but little in its seedlings; one, however, the Early Victoria, was earlier and must, therefore, be valuable, and another bore larger and finer nectarines. The White Nectarine produced fruit generally, similar to the parent; one variety, however, being more valuable for its vigorous growth, and another a fine, white-skinned *peach*, the tree exactly resembling the White Nectarine in growth and appearance. From Gregory's Late Peach, a very good melting free-stone sort, large cling-stone peaches were produced which ripened fully a month before its parent. From Pavie de Pomponne, one of the largest and latest of peaches, he raised a very fine, melting free-stone peach, much like its parent in the beautiful waxy tint of its skin, and in its very large flowers and leaves, but it ripens a month earlier or just before the Late Admirable. The Royal George was found to reproduce itself from seed with rare exceptions. The same may be said of the Noblesse and Grosse Mignonne. The Belle-gards peach produced some small, dark-colored nectarines of no value. The Pitmaston Orange, possessing large, bright blossoms and orange colored fruit, produced, among twenty seedlings, those that closely resemble the parent, with three exceptions, one a week earlier with different glands on the leaves, the second ten days later, and the third a large crimson peach of most excellent flavor. The Hardwicke seedling nectarine gave a seedling with the large flowers and serrated leaves of its parent, but its fruit worthless clingstone peaches. The Newington, a clingstone nectarine, gave a seedling producing late melting peaches, good but not better than the Late Admirable peach. Fairchild's Early Nectarine, with a bright, golden fruit, reproduced itself without the least variation in leaves, fruit or flowers.

Rivers has advanced the opinion, in connection with a large number of instances, that cross-fertilization has, on the whole, been much less successful than the simple reproduction from good sorts; but he should have borne in mind that where one cross-seedling has been raised, thousands of others have made their appearance in all parts of the world. No discouragement should be thrown on the attempt to improve varieties by crossing the flowers. Clipping out the stamens with the scissors as practiced by Knight, is too slow and tedious a process; the close-planting adopted by Dr. Kirtland is much better at least for the fruit raisers of this country. If two dissimilar trees are placed in close contact, so that the winds or bees may indiscriminately mix the pollen among the interlaced branches, a large number of crosses may be thus very easily obtained. Planting, for example, a dwarf apple tree of the Esopus Spitzenberg, for its richness of flavor, in the same hole with a Fallawater, or with a Hartford Sweeting, both of which are fine growers, but moderate in flavor, we might obtain some valuable results; or the Swaar might be planted with the Rome Beauty, or the Fameuse with the Poughkeepsie Russett. The richness of the Seckel, which is deficient both in appearance and growth, might in the same way be imparted to the Howell, of rather deficient flavor, but of nearly unequalled growth and productiveness. The Flemish Beauty might be crossed with the Winter Nelis or Kirtland; the Louise Bonne of Jersey with the Rostiezer or Giffard, or the Bartlett with the Fulton or Doyenne.

ICE HOUSE AND FRUIT ROOM.

A correspondent speaks of arranging a "fruit room" and "ice house" together. What is the proper arrangement, and what the *uses?* Should both be on a *level*, either *above* or *below* the surface of the ground? Should they communicate with a door or only an open window, and is not this ante-ice room fine for storing meats, milk, vegetables, &c.? In a late number you speak of almost any shanty keeping ice. If so, does it pay to put up the more expensive double roof and sided ones? If so, would dirt (or soil) or sand answer a good purpose to fill the double walls, and would not 4 or 5 inches of space filled with plaster (gypsum) as ground for sowing, be a good non-conductor, or would it be liable to become moist, and thus hard as stone nearly?

Schuyler's Lake, N. Y. C. P. B.

The cold apartment may be adjacent to the ice apartment with only a thin partition between; or the air may flow over the surface of the ice and pass into the apartment through an orifice. This will make it colder, but will melt the ice very rapidly—observing in all such arrangements that cold air flows downward just as hot air does upward. These apartments may be either above or below ground. If above, they should be lined with ten inches of well packed saw-dust, and will answer all the purposes of a cold cellar. The only object of an elaborate structure are neatness of appearance and avoiding the extra care of lining and packing saw-dust as the ice is filled in, by providing a permanent lining. Neither soil, sand or gypsum will answer the purpose well, as neither are good non-conductors of heat, except the latter, which would be sure to become spoiled by the water from the melting ice.

BEST FEED FOR MILCH COWS.

Messrs. Editors—The dairy interest in this State is of great magnitude, and every year increasing in importance, not only in quality but in quantity also, and if we believe the statements of some writers on the subject, it is to become of still more importance. As an article of commerce the products of the dairy of this State, also of several other States where the business is beginning to develop itself, are beginning to attract the attention of our merchants, and if the quality only is such that we can effect sails abroad (it may be if care is taken in its manufacture) the business can be very successfully prosecuted. But in order for its successful accomplishment, we must have good cows to start with. Each dairyman will of course exercise his judgment as to what they shall be. Then good keeping and care are requisite for the cows, to make the business profitable for the dairy farmer.

I have been led to these remarks by the articles of Wm. J. Pettee of Conn., in Co. Gent. of Jan. 15th, also from J. H. B., in Co. Gent. of Feb. 5. The manner of feeding by these gentlemen is good, but I would include a greater variety of food if possible. Apples I consider as good as any of the root crops, if properly saved, and fed to milch cows, say a peck or half a bushel per day, or more if they are plenty. Also I am much in favor of giving a little corn meal with them, say from 2 to 4 quarts per day; it not only increases the milk but makes it of good quality and the butter of fine color and flavor. In fact, I think corn meal the best of any meal or bran for the purposes of giving to a milch cow whose quality of milk or butter is an object. I would also include rowen, or the second crop of hay, whether clover or other grasses, as a first quality feed for milch cows in the winter, which in some moist seasons can be cut to a profit, if the first crop is sown early; then both crops are excellent for that purpose. Also I have found by experiment, that cabbage is a good article of food for dairy cows in fall and early winter, and a large amount of them can be raised on an acre. Cows fed on them will give an ample supply of milk of good quality, if they are given fresh and no decayed leaves or heads fed to them. I have no doubt but cabbage can be given, after sowed corn is injured by frost, so as to be as profitable for a month or two as any green feed that can be given in this latitude, and light frosts do not injure them for feeding purposes.

Rome, N. Y. JONATHAN TALCOTT.

FOOT DISEASE IN HORSES.

You have an article with this caption, page 92, current vol. of Co. Gent., and as I have been almost precisely in the same predicament as was your Kentucky correspondent, I wish to tender him my thanks for his valuable article.

I used my horse a long time without being able to ascertain the seat of his lameness, when a neighbor suggested it might be a disease of the frog, which he called the "thrush." On examination, this proved to be the case; the frog was seriously diseased as was "H. T. H.'s" animal, and by thorough cleansing and application of spirits turpentine and hot tar, and the use of the high heeled shoe, which is all important in order to bring the frog up from the ground and prevent its being bruised, a cure was speedily effected.

Cole, in his "Diseases of Animals," gives the cause of this complaint as the "long continued application of moisture to the foot and plethoric state of the body, and sometimes by standing in moist dung," and prescribes as a preventive, "to keep the feet dry," which is not generally practicable, perhaps, where a horse is in daily use. I am satisfied your Kentucky correspondent will find this the correct name for the lameness of his horse, and would suggest that when one has an animal lame, and cannot readily discover the seat of the trouble, to examine very thoroughly this portion of the foot, as it usually commences deep down, in at the very point of the frog.

It is in some cases similar to the "fouls" in cattle, and the same causes are said to produce it, as those cattle in moist or swampy sections are most liable to it. Also do the two diseases seem to yield to the same remedies, as in the case of fouls, thorough cleaning and the application of turpentine, tar or vitriol are efficacious.

Salisbury, Ct. W. J. PETTEE.

DISEASE IN SHEEP'S EYES.

Messrs. Editors—Your correspondent D. E. L., in the Co. Gent. Jan. 1st, page 16, inquires the cause and remedy for sheep getting blind. I have had sheep affected in the manner he describes a number of times, but cannot for a certainty assign any particular cause. I have suspected it was caused by pasturing for a length of time on low wet land. My remedy is (and I have never known it to fail in effecting a cure) to make a transverse cut about half an inch below the internal angle of the eye, about five-eighths of an inch in length, and as soon as the blood begins to flow, turn the sheep's head back, and let the blood run into the eye. This is all that is necessary to be done. It will be observed that where the incision is made, the bone is barely covered by the skin, and a small vein will be divided by the cut. Your correspondent need not fear that any very serious consequences will arise from the blindness, as I have often known the sight of the eyes to become restored without making use of any remedy. I am indebted to a Scotchman who was skilled in sheep husbandry for the above remedy.

Lyn, C. W. M. M. HOWARD.

LARGE vs. SMALL HORSES.

Messrs. Editors—I noticed an article in a late no., entitled "Large vs. Small Horses." In am not in the habit of writing for publication, but I wish to say a few words with regard to large and small horses. In the first place, I agree with the statement with regard to what is said about models and machinery, but when the writer applies the same principle to horses I differ with him. He stated that a horse weighing 900 lbs. would do all the work of a horse weighing 1,100 lbs., with as much endurance and with less feed. This is a mistake. I shall speak from experience. I have two teams on my farm, one weighing about 1,200 lbs. each, the other weighing 900 to 1,000 lbs. each.

Now the team that weighs 900 lbs. each, I use to do light work, such as dragging and going on the road with light loads, but if I am going to market with a heavy load I always take the large team. You have noticed, (or at least I have,) that when a light team was attached to a heavy load and the wheel struck a large stone, it would throw them off their balance, whereas with a heavy team the obstruction would hardly be noticed by them. I have noticed the same in plowing, that a small team would have to wiggle and stagger around to draw what a large team would go right along with steadily. I generally plow with a three-horse team abreast, and I never want a horse to weigh less than 1,100 lbs. to plow with. If they weigh 1,200 lbs. each, so much the better. A horse that weighs 1,200 lbs. will draw 1,200 lbs. as easily as a horse that weighs 900 lbs. will draw 900 lbs.

The Maine Farmer says a 900 lb. horse will do the same work as a 1,100 lb. horse, with less feed. If he has found this so, I do not know where he has found it. I find that when I work a light horse against a heavy one, I have to give it the advantage on the whiffletree, or on the grain; if not, it will shrink and grow poor. I know that three horses, that weigh 900 lbs. each, will plow and do a good deal of work, but how do they do it? They have to exert every nerve, and strain every muscle, and will soon become limb-puffed and unsound. I will admit there is a difference in horses of equal size; some are superior to others, but all things considered, as far as I have noticed and my experiments have gone, I say give me a large horse.

I contend that a horse that weighs 1,200 lbs. will do the work of a 900 lb. horse on the same feed, but I should hate to have a 900 lb. horse do the work of a 1,200 lb. horse, providing you fed him the same. I fear he would soon wear out, and soon become an old horse in his young days. A Reader of the Cultivator.

TO SAVE BROOM CORN.

If done in open air, lay two large rails on the ground ten feet apart, as if to build a square pen. On these lay rails, say 18 inches apart, and spread a tier of corn on them. Now lay two rails across the ends of the scaffold tier, on which to lay another tier of rails for scaffold; spread corn, and continue in the same way till you get say ten feet high, or as high as the corn can be conveniently thrown. As you get near the top, raise one side faster than the other, so as to give a slope for the roof. Cover with twelve-foot boards, so as to project a foot all round, turning the slope of the roof in direction of the prevailing storms. You thus have tiers of scaffolds ten feet square, eight inches apart, and ten to twelve feet high. If the seed is on the corn, spread thin. I clean as it comes from the field, so can put double as much on a scaffold.

Broom corn should be cut when the seed is just ready to fill. A dew or shower on it when fresh cut, does not injure it much. After it is partly cured, it should be kept dry. Care must be taken not to spread thick enough to heat, or to bulk before thoroughly cured.

Winding up where I should have commenced, the rows of corn should be three feet apart at cutting time. A man walks backward breaking two rows across his knee, crossing each other and forming a table on which to lay the corn as it is cut, to take a day's sun before taking it to barn or scaffold. M. L. D.

Des Moines, Iowa.

A GOOD CORN MARKER.

In the last number of the Annual Register, I see a description of a corn marker. I have tried one of that kind and it was much better than the slow process of marking out with a plow, but they will not run steadily where the ground is not perfectly smooth and clear of clods and stone. For the last two years we have had one which we think could not be improved. It consists of three runners, 3 by 6 inches, about 3 feet long and placed 3½ feet apart from centre to centre, and securely braced by strips across the top. They are rounded on the under side, in front, like sled runners. In the centre is fixed a stationary tongue or pole to which we attach two horses. In driving, walk back of the *centre* of the marker, and sight over the end of the tongue to the stakes. Having two horses you can see between them and run a much straighter furrow than when only one horse is used. The tongue makes the marker run steadily, and the runners make straight, smooth marks, which cannot be mistaken for the marks left by the harrow.

Prepare three stakes 10½ feet long, or if you desire the runners to be 4 feet apart, make the stakes 12 feet long. Set the stakes in a line as near the fence as you desire, placing one at each end of the field and the other in the middle. Before commencing, take up the stake where you are going to start, and measure one length of it from the point where it stood, and set it to return by; now drive steadily to the next stake and move it in the same way, then to the third and stand it in range with the other two, mark the point where it stands with the foot, and measure from there one length of the stake and plant it to return by; now start with the end of the tongue in range with the other two stakes and proceed across the field as before. Hold the lines steadily, and keep them drawn tightly, and if the horses walk fast, all the better. If the marker is made with more than three runners it will be too lengthy to be easily managed; and with one of this kind we have marked 10½ acres both ways in a day. Some have a seat fixed upon them; we tried it, but could not get over ground fast enough as it dragged too heavily, and we preferred walking. Tyro Lingo.

Salem, Ohio.

HOW I RAISE POTATOES.

Messrs. Editors—It is a matter of prime importance to all who raise this staple article of food, to an extent beyond that of the mere garden patch, to lessen as far as possible the cost of production. Horse labor is the secret of producing crops cheaply. Horse labor, as far as it can be applied, is more profitable and more satisfactory every way, to the farmer, than hand labor, and moreover, now that so much of the bone and muscle of the country is engaged in the laudable occupation of putting down the rebellion, it becomes a matter of stern necessity to use the horse, and used he is, and will be, for many purposes not dreamed of in the philosophy of the past generation.

I select for my potato field, a gravelly, well drained soil, plow rather deeply, harrow fine, and mark out with my corn-marker, the rows three feet four inches apart. I then take "Shares' horse-hoe," with the teeth removed, and with one horse follow the marks and open a furrow as deep as possible. Drop the seed about eighteen inches apart, cut side down every time. I cut potatoes of ordinary size in from two or three pieces. I now take the same implement with which I opened the furrow, spread the wings well, and pass through each space between the rows, covering them in the nicest possible manner—deeper and better than any dollar a day hand would do it. As soon as they are up large enough to hoe, I go through with the same horse-hoe, hilling them slightly, and at the second hoeing run the machine deep, making a high hill, with quite a deep gutter between the rows. I think this affords great protection in a wet season, and potatoes are not apt to suffer from drouth. Hand labor is found to be almost entirely unnecessary, still we generally follow with the hoe, about as fast as a man would travel, fixing here and there a hill, and hoeing the ends of the rows. I have not as yet dug my potatoes by horse-power; this would lessen still further the cost of production.

The kind of potatoes planted in the experiment of which I give you the figures, were Garnet Chili, Pink-eye Rusty-Coat, Cuzco, Prince Albert, Coppermine, New-Hartford, Kidney, and Central City. The figures stand thus:

Plowing one acre	$1.00
Harrowing, marking, and furrowing	.50
15 bushels seed, at 50 cents,	7.50
Cutting and dropping,	1.00
Covering,	.25
Horse-hoeing twice,	.50
Hand-hoeing	1.25
Digging and carting,	10.00
	$22.00

I had three hundred bushels per acre, which makes them cost just seven and one-third cents per bushel, without adding interest on land, which would increase the cost a little, varying according to price of land. As I have raised the old varieties of potatoes, with a result of 75 bushels per acre, I reasonably call this a success, and think the credit is due mainly to the kinds planted, which were principally of the three first above mentioned.

Moravia, N. Y. J. H. JEWETT.

Keep your body sound; as wine savors of the cask it is kept in, the soul receives a tincture from the frame through which it works.

[For the Country Gentleman and Cultivator.]

Tobacco Culture in the South-West.

Preparation of Plant Beds, &c.

The best time for burning plant beds, is in the fall when vegetation is dried up by frosts. Any time during November will answer. Select rich loamy new ground, that is perfectly dry; then cut and pile "compactly," plenty of wood and brush upon the spots of ground selected for plant beds; then burn the first dry windy day. A bed 30 ft. by 30 ft., or an area of 900 feet, will furnish plants for five acres of ground. The months of January and February will be the best time for sowing the seed. [This, it should be remembered, is for Southern Illinois.—Eds.] It is generally believed by large tobacco growers in Kentucky, that beds sown in January furnish better rooted plants than beds sown in March. Break beds with plow, or dig with mattock immediately before sowing; then harrow well and finish with hand rake. Mix one tablespoonful of seed with four or five quarts of dry sand, and sow evenly. The above quantity of seed is *a great abundance* to sow on a bed of the above dimensions, to produce early and strong plants. Water the beds freely during April or May, with branch water, or with guano, or other manures in the liquid form. This will forward plants a week or ten days. It is very important to have sufficient thrifty plants of proper size to set out the *entire crop* at first planting. This will give a uniform stand.

Plants treated as recommended will be ready for setting out by the 20th of May. Yellow, Pryor and large Oronoco, are the varieties thought best of in Green River and Clarksville districts—the Pryor is finer in texture somewhat than the latter, especially when grown on thin land, but scarcely any difference in texture when grown on rich land; however, the Oronoco is a thicker, heavier bodied tobacco than the Pryor, hence I prefer it. I have found those beds which I have neither rolled nor tramped, did as well as the ones which were rolled.

Preparing Ground.

I consider late fall or winter plowing as being of the greatest importance. When thus treated, the cut-worms will not molest the plants after setting out; would also advise twice plowing in the spring, once when plowing for corn, second time some four or five days before planting. Harrow well and mark off both ways, in rows three and a half feet apart. Then set the plants in corners of squares, being careful always to select the same corner of squares, else the rows of plants will be crooked. Hilling has been abandoned by all large tobacco growers in the South-west. Clean and thorough culture is absolutely necessary to insure a crop of large leafy tobacco. By using the double shovel plow or cultivator, hoeing can almost be dispensed with.

How to Prune.

Pruning is done by breaking off half a dozen lower leaves, when plants are fifteen or eighteen inches high. Many good tobacco raisers in the South dispense with pruning. This I don't approve of, for the following reasons: When pruning is neglected, the ground leaves will have to be wormed as regularly as any others; if not, the "tobacco worms" will crawl up to the better leaves and do considerable injury—in fact the ground leaves, if left on, are never worth housing; they don't attain full size, and are so much injured by dirt and firing as to make them valueless. Therefore I say, *prune high*, leaving nothing on but what the grower intends making a good article.

Topping Tobacco.

The next thing in order is topping, which is done by pinching the heart or top off, as soon as there are as many leaves on the plant as the grower wishes. Early topping on rich ground, can be done at 12 leaves, and all plants not then ready, but ready for topping one week later, at 10 leaves, and those two weeks later than first at 8 leaves. Many good planters prefer 10 leaves as the maximum, thereby making a larger and leafier article.

Time of Cutting.

It is of great importance to have the crop ripe, *very ripe* before cutting; if not, the quality will not be as good; there will also be a deficiency in quantity. It is after the plant has become fully grown, and during the time of *ripening*, that the leaf thickens and becomes heavy. If cut sooner than this, it will not have a good body, nor that oily elastic appearance which is so desirable. When any of the crop is cut earlier than the 10th of September, avoid cutting in the middle of hot days. It will be found almost impossible to wilt large plants sufficiently for handling, without sun-burning, if cut at mid-day during the last of August or first of September. As rains wash the gum off plants, making "the leaf" thin and flimsy, therefore do not cut immediately after erins; allow forty-eight hours to intervene before cutting; ganerally the leaf will have thickened by this time.

Scaffolding, Curing, &c.

Build temporary scaffolds in fields, by setting forks in the ground to the depth of 18 inches, and five feet above ground; then haul to each scaffold as many sticks as will fill the scaffold. In size they ought to be $\frac{7}{8}$ inch by 1 or $1\frac{1}{4}$ inch, and 4 feet long; these will neither turn when hung, nor bend with weight of plants. Now we are ready for cutting: split the plants through the center of the stalk, beginning at the top, to within five inches of the cutting off place; then lay the plant carefully on the ground, butt towards the sun; if a very large plant it will be best to invert it, that is butt up; fewer leaves will be broken off in this way than laying down plants in any other way. In a few minutes, "if the day is hot," they will require turning, when place the butts towards the sun; then put them in piles, seven to ten plants in each pile. Size will determine the number. Bring the stick from the scaffold, press it obliquely in the ground to the depth of five inches—"perhaps less will hold the stick firm," close to the pile of plants; put the plants on the stick and hang them on the scaffold; pick up another stick, carry it back to another pile, and so on to end of chapter.

I have tried many ways of hanging, and this is the speediest and most convenient of any I have tried. When well cultivated the soil is mellow, and there will be no difficulty in pressing the stick into it to a sufficient distance to hold the sticks perfectly steady.

To cure tobacco a fine color, it will be necessary to crowd closely on the scaffold, so as to exclude the light as much as possible. It will also increase the temperature of the tobacco, which hastens the yellowing. It will be borne in mind that no amount of heat will produce an intermediate or yellow color, without crowding closely. I have experimented with single plants and sticks hung in the barn, and in no instance did the plants yellow, while the crowded tobacco yellowed nicely. Rain injures it very much, therefore never have more scaffold in the field than can be hauled to the barn without being rained upon.

When tobacco is cut and housed in the latter part of September, it will be found necessary to use artificial heat. Furnace stoves or open fires in trenches, are the usual modes. When fire is used for the purpose of yellowing, it will have to be used *moderately;* bring the barn to ninety degrees. This will answer until the leaf is well yellowed, when the heat can be increased twenty degrees. This will cure the leaf perfectly, provided this temperature is continued regularly day and night, in five or six days. Of course when crowded in the barn for the purpose of yellowing, as soon as this color is attained, it will be necessary to separate the sticks to prevent house-burning. Eight inches apart will answer, but a greater distance will be better, especially if the tobacco is large.

For hauling, use a frame seventeen feet long and four feet high, made like a wood-rack. When hauled in this manner, bruising the leaf can be avoided.

When the stem of the leaf is thoroughly cured, it is ready for stripping and tying in hands of from seven to ten leaves, according to size. Where crops are sold to stemeries, the hands can be made double the above size. Hang hands on sticks, and strike or bulk down, the first time of coming in proper case. If bulked during the winter months, do so when the stem of the leaf will break brittle from end to end. If in the spring or summer, when stem will break two-thirds from large end of stem. Always bulk down when the tobacco is *coming in case*—never going out of case.

Worming and Suckering.

I omitted to mention in the proper place, the necessity of worming and suckering. The suckers make their appearance immediately after "topping." These will have to be kept broken off. I rub them off with the point of finger before they reach one-quarter of an inch in length. When nibbed off completely, it will take more time for the sucker to make a fresh start and a growth of one inch in length, than will be necessary for a sucker which has been left on to make a growth of four or five inches.

Tobacco wormed thoroughly once a week, will make a tolerably sound crop, but once and a half will be better. Worming and breaking suckers is done at the same time of going through tobacco in this wise: begin at top leaves, and break suckers down; then examine for the great pests of a tobacco crop, "the worms;" also examine for the eggs deposited by the tobacco-fly. They are as large as the head of a medium sized pin—perhaps a trifle larger—from yellowish green to deep green in color. It will require careful work to see them, but when the work is done in this manner, very few worms will be overlooked.

Good dry corn land, such as will here produce from 45 to 60 bushels per acre, is well adapted to tobacco, and willl produce 800 lbs. to 1,200 lbs. per acre. From two to three acres to the hand is plenty.

Construction of Tobacco Barns.

The barns in general use in Kentucky and Tennessee, are five tiers in hight—however, some are only four tier buildings. When four feet sticks are used for hanging plants, "this is the most desirable length." Of course the tier poles will have to be a corresponding distance apart. Always allow an extra foot in width of barn more than the number of tiers of sticks hung, in width or across barn; thus in lean-to or shed to barn, which is intended to contain four tiers in width, make 17 feet wide—barn to contain six tiers in width, 25 feet in width, &c. It is well when barns are not floored with plank, after crop is cured, to cover earth floors with straw five or six inches deep; this will prevent the dampness of the floor moulding stem of leaf.

It can be easily ascertained, the amount of barn room required for any crop. When planted 3½ feet by 3½ feet, there will be 3,535 plants—ten plants to the stick will require 353 sticks, eight inches between sticks. This is as close as tobacco ought be hung. These data will enable those interested to ascertain the quantity of room required for their crops. Jno. Landrigan.

Albion, Edwards Co., Ill.

A BOY'S EXPERIENCE IN FARMING.

Messrs. Editors—I have for a few years tried my luck in farming. I commenced for myself, when I was 15 years of age, in the year 1860, on six acres of land. In the spring, sowed oats on my field. When the oats came off, I plowed the land, and let it lie until I wanted to sow my winter grain, which was wheat, then harrowing the ground over before sowing the grain. I sowed my wheat, and then spread on my field about 60 loads of yard manure from the cart—then sowed on timothy seed and redtop—the next spring, clover. That summer I had a fine crop of wheat. Last summer I think I had the best piece of grass that grew in the State of Connecticut. From my six acres I cut nearly 22 tons, the best of hay—cut it about the 10th of July, with G. M. Hubbard's patent harvester. On the machine I had a pair of horses, weight about 900 lbs. apiece. If any of the New-York boys can beat this, let me hear from them, as I expect to try it again this year. Chas. E. Paddock. *Meriden, Conn.*

OLD vs. NEW ORCHARDS.

Messrs. Editors—As the season for setting trees is at hand, I propose to write a bit of my experience for the benefit of any of the readers of your paper who may be just commencing a business life on a farm. When I purchased my present farm, fifteen years ago, it had on it an old orchard. The trees were natural fruit, but many of them looked quite thrifty. I commenced to trim, scrape, and graft. I paid out about thirty dollars, beside what labor I did myself. The ground was plowed lightly and manured, sown with turnips, and sometimes planted with potatoes, or sowed with corn for fodder. I waited eight years expecting fruit in abundance, but I waited in vain. Some of the grafts grew well for a while, but I soon found more or less of the trees were dying, evidently from the effect of trimming and grafting. Many of the grafts died (trees and all,) after being set a number of years. It is my opinion that I have not had more than fifteen bushels of grafted fruit from all of those trees since the grafts were set. The trees and parts of trees not grafted, produce well, perhaps every second year, but few of the apples are worth much except to feed stock. For this purpose all fruit of the apple kind I think is good, especially for cows. I do not know of anything that they relish better, or that will produce more milk. Of course judgment must be used to regulate the quantity. But I find I am a little off the subject. In summing up my experience, I do not believe in fixing up old apple trees. With me it has proved a failure.

Six years ago last spring I set out one hundred apple trees bought at the nursery. I helped to take them up and secured a good root to the trees, and they were very good trees. I set them on pine plain land, which had been wornout by constant cropping by its previous owner, but since I had occupied it was somewhat improved by manure and clay. The trees were set thirty-three feet apart. Since the trees were set I have manured the land and raised a good crop every year. I have set some trees since, and now have three acres of orchard in one piece, which I treat pretty much alike. The crops usually raised among the trees are carrots, cabbage, corn sometimes, and corn fodder. The same crop is not on the same ground two years in succession. These trees have grown well, and look smooth and thrifty, and others say just right. They are now from ten to seventeen inches in circumference two feet from the ground. A few of the trees bore specimen apples the second year, and have produced more and more each year since. The past year, 1862, the produce of the first one hundred trees set, was one hundred bushels of nice apples. Some kinds, which come late into bearing, have not produced much yet. The Northern Spy and Early Strawberry for instance, are of this class. Some Baldwins did not bear at all the past year; others produced three and four bushels each. But the fun of the thing is, we have all the apples we wish. They keep very well indeed, considering we have from eight to ten in the family and all like fruit. They have rotted but very little, and this is the first winter for twenty years that I have had what fruit I wished to eat.

Now friends of the plow, which pays best, to expend thirty dollars on old trees or twenty on nice young ones? Thus far the land has produced about as much as though no trees were on it; but I think this will not be the case longer. Last spring I set seventy-five sweet apple trees, and hope some time to have plenty of sweet apples to feed to stock. My advice is to set young trees, and when they come into bearing cut away the worthless old ones.

Chicopee, Mass. M. S. KELLOGG.

[For the Country Gentleman and Cultivator.]

SHEEP HUSBANDRY IN ENGLAND.

Cotswold sheep are bred chiefly on an extensive tract of high land in Gloucestershire, and for miles diverging into Oxfordshire, and some other adjacent points bordering the part strictly denominated the Cotswold Hills. The farms average about 300 acres each, and, as in other parts of England, are mostly rented from the large landed proprietors at a certain price per acre according to quality, payable half yearly, the 29th of Sept., and the 25th of March, the former being the usual time of entering as tenant. The changes are not frequent—in fact the buying and selling of farms in America is of more common occurrence than the removal of occupants there, and as the custom of that country is to pay the outgoing tenant for growing crops and unexhausted manurings as per valuation, when a change does occur it is not attended with the injury to the land and the breaking up of system as is the case in localities where the law cannot enforce reimbursement, or on the other hand recover damages for neglecting to keep every portion of the land planted in accordance with the rotation and course of husbandry agreed on, or that which is customary in the district.

On such a farm, besides cows and young cattle to eat and make manure of the straw from the grain crops, a flock of 200 ewes is kept, and managed so as to sell 200 sheep per annum. These ewes are assorted particularly and examined one by one, and put into lots of about 70, so that their shape and quantity of wool and general appearance shall be as nearly as possible similar. Thus the 200 ewes will make three lots, each put with a ram in separate fields. The rams are purchased for the purpose of suiting the ewes they are mated with, the idea being to keep the progeny as even and as much alike as possible, which is done by having the shortest ram with the longest ewes, the heaviest wooled ram with the lightest coated ewes, and vice versa, and in every point, as near as can be arranged, counteracting defects in this way, and bringing the stock year after year as much of one character as can be done. The flock does thus become pretty much like what the owner considers the best stamp and sort of sheep adapted to his soil and circumstances. The ewes have the rams with them but one month, as it is best to have the lambs come in in that time, for the "yeaning" month is the only time sheep are placed in pens, littered with straw, and then during the day they are driven away to range on their wonted ground. Those having lambs are continually moved off as fast as they get fit, to different parts of the farm, according to convenience.

The month of October is the one generally chosen for the mating, which brings the lambs from the last few days in February to the end of March. Sometimes it may be necessary to bring them home during a snow storm, but as a general rule, at a few days old the lambs are taken away for good with their dams, and in a fortnight are ear-marked, the females on the left ear and the males on the right. At the same time all their tails are cut short, and the males are altered. They are weaned when the hay-making is completed, which is about the 1st of July. They are divided into lots, the sexes separated, and fed on the second growth of rye grass, clover and sainfoin. The ewes are sorted over, the oldest replaced by the yearlings, called "theaves," and as the casualties are made up by the twins, the flock will always bring as great a number to maturity. The breeding ewes are thus all young, as perhaps not more than a dozen, or a score at most, are ever permitted to remain after their turn comes to be drafted. These of course are the best, and are kept in place of the same number of the very worst theaves, and next year leave the flock entirely, so that the "cull ewes" will be annually 80 three year olds, (including the 20 theaves) and 20 four year olds. Sometimes these are sold to go into the rich grazing districts, where many farmers habitually buy and sell instead of breeding; but the best farmers, who force prodigious crops of roots, feed them till fat.

The lambs are put to turnips about the latter end of August or beginning of Sept., when they are designated "tegs," common white turnips with a little hay being their food till about Christmas, when they commence eating the Swedes, which being cut and given with great regularity, force their flesh and wool enormously. The Swedes having a warming tendency, they may be seen on a cool winter's morning lying on their sides stretched out as if basking in summer's sunshine. The wether tegs have the choicest cuts of hay, which is given them in racks, and after being picked over, is removed in a cord by the shepherd for the ewes to finish, or perhaps taken to the homestead for the cattle, as may be the handiest.

Thus the he tegs and the draft ewes are sold annually, the ewes about Jan. or Feb., and the tegs in April, or according to the holding out of the roots. The 100 ewes are handsomely and often ornamentally shorn, and go to some Fair in the neighborhood, where there are always butchers to buy at a market price, and as the ewes have not become so old as to be coarse about their udders, they will sell for 12½ dollars each, which price the 100 tegs will also make by April. Thus the sale of sheep per year will amount to $2,500, and as the whole 200 ewes and 100 ewe tegs left on the farm, will produce on an average with those shorn fat, about 10 lbs. of wool each, this will give at 25 cts. per lb., which is a fair price for it one season with another, a total of 5000 lbs., which will come to $1,250, giving a grand total of $3,750 from sheep alone.

On such a farm it will generally occur that ten heifer calves will be raised each winter, for they get them from Buckingham or other markets, and by giving them skim milk and teaching them to eat Swedes while quite young, will bring them out at spring fit to care for themselves on any moderate pasture—(some are raised in Wiltshire on *hay tea.*) They are kept round and sold out "coming down calving," at three years old, and if they were judiciously selected as regards breed, they will readily make $100 each, which, with the sales of hogs, will run the proceeds from live stock to upwards of $5,000 per year.

The returns from grain sold will probably make an addition of about $4,000 more, from which has to be paid, rent, taxes, local rates, tithe, &c.

This class of farmers keep a good saddle horse or two, and see some sport in the winter by riding a day or two in the week with the fox hounds; and by breeding or buying likely young horses, and training them to leap as hunters, make more than enough to pay for keep and attendance, and get the recreation into the bargain.

Nothing has been said about the Leicester sheep, Downs and other varieties, for there is only the difference in their management, the change of soil and other variations of locality demand.

In the South-west of England, the Dorset and Somerset sheep have horns, and will, if desired, breed twice per year. The draft ewes from these counties are many of them bought by farmers in the vicinity of London, and produce what are called "house lambs," which are brought into market as a delicacy, as high as $5 per quarter, at the opening of the New Year.

The Down commands the best price for mutton, and every kind has its advantages for one thing or another in particular parts of the country, so that it is difficult to maintain an argument relative to the superiority of one breed over another. The Leicester may be best adapted for the rich feeding pastures of Leicestershire and Northamptonshire; the Downs for their native hills and Downs. The Spanish Merino is but little known; the Scotch and even the Welch are appreciated for certain peculiarities, but for North America, a cross between the Cotswold and Down might be as good as any, for they have heavy and good wool, and as it grows from their nose to their toes, they can stand cold, rain, snow or mud, rather better than any other breed, and as exposure does not injure their fleeces as it does the Merinos, there need not be so much anxiety about housing them, and they might be on the land more, which is their proper place.

This is a representation of common flocks which never eat grain or aught but grass, vetches, roots and hay. Some farmers feed with barley, peas and cake, and bring out sheep at a third more per head than here stated, and say it is an outlay paying good interest. J. B.

Planting Orchards and Vineyards.

Messrs. Editors—The modern plan of setting out an orchard or vinery, is such a formidable process that many young farmers dare not venture to look it in the face. Now it strikes me that some amelioration of the practice of draining, sub-soiling, trenching and manuring, might obtain, much to the relief of farmers of moderate circumstances.

Now we know that manure placed to any depth will invite the roots down to it in search of food, let the depth be what it may. A writer in the Co. Gent., in the number for Jan. 26th, page 61, over the signature of Quercus, says—"The question is that should roots be near the surface in a warm top soil, or far beneath in a cold subsoil? Do they do best in a thin rich soil, or where it has been trenched and manured?"

Let facts answer.—1st. In wandering over the elegant grounds of my friend George Dayton, Esq., of Peekskill, I came across a Catawba grapevine. Frost had come, yet the vine was loaded with fruit which had not begun even to turn. My friend observed that he was out of patience with it, and intended to dig it up, which he has since done. It stood in a splendid spot on the south side of bank a wall about four feet high, in the open sun. Knowing he did up everything thoroughly and systematically, I inquired how he planted the vine. He replied that he thought it a fine place, and so he took great pains to trench deep and manure well, and now, said he, just look at it; so I offered him my explanation at once. The roots on the north side ran under the wall and embankment four feet below the surface, and those on the south side had been invited about as deep by the manure trenched in, so the genial heat of the sun failed to reach them on all sides; therefore they never ripened, nor even thought of it.

2d. I once gave a Catawba grapevine to an old maid. She planted it about twenty feet from the south-west corner of her house, in her own way. The sub-soil had been scraped off the cellar bottom and the bottom of a bank of soft old rock on the side-hill, and of course it was nearly impervious hard-pan. Over this had been spread a good soil some six inches deep or thereabouts, merely to make gass grow for a greensward. There stands the vine on a rude arbor and up an old tree. It was never trimmed, but often watered with soap-suds. For many years it has borne large crops of beautiful ripe grapes, and no "Thomery" about its culture.

I will only add that I have more facts on hand, but I will conclude with quoting the words of Mr. H. T. Brooks, President of the Western Fruit Grower's Association. At their last convention he closed the discussion on grape culture in these words—"I would plant on a dry side-hill, cultivate well, would not trench deep, nor use animal manure."

A few remarks on apple tree setting and I shall have done. A writer in the Co. Gent. for Jan. 26th, gives us his experience on apple tree culture, saying he "had traced roots four feet deep, but on shallow soil grew the most thrifty and healthy apple trees."

In conclusion I merely wish to add, that I know an orchard of apple trees planted on a field of ledge rock cropping out here and there all over it. The trees are thrifty and bear enormous crops of superior fruit. So near the surface were the roots, that I saw one seven or eight feet long bare of soil.

My simple opinion is, that the central roots of trees are sent down to support them from winds, and perhaps to draw up water, while the lateral ones ramify the surface in all directions in search of food; and that if food be placed far down, the roots will be invited too deep to realize the heat of the sun, and thus lose its beneficial influence. Jas. Fountain. *Jefferson Valley*, *Feb.*, 1863.

CURE FOR BONE SPAVIN.

Eds. Co. Gent.—In your paper of Feb. 12, p. 108, I noticed "A Cure for Bone Spavin." But as it contained many articles not easily within the reach of most farmers, It occurs to me to communicate a much more simple remedy, which has also proved efficacious in cases of ringbone, (which belongs to the same class of diseases.)

Bathe the affected part three times a day with *sour buttermilk*, well rubbed in. The bony excrescence will become softened by the action of the lactic acid, and gradually absorbed.

This treatment usually takes from two to three weeks, but may be longer in an old case.

When horses are treated under my own direction, I am in the habit of prescribing the homœopathic preparation of Iodine, usually the third decimal dilution, a drop morning and evening, on a bit of bread or lump of sugar, which most horses will readily take.

This greatly facilitates the process of absorption, and I would recommend it in all cases where homœopathic remedies can be obtained.

Iodine must in no case be used in condensed form. One drop of tincture to one hundred drops of alcohol, thoroughly combined by shaking, is as strong as I would venture upon. This to be used daily for a week, then omitted for the same length of time—then repeated for one week. All this may appear very absurd, but I have frequently seen these simple means successful in the treatment of these obstinate diseases.

All humane men will be glad to learn that in the reformed system of medicine, what are usually styled *horse doses*, are entirely abandoned, both in the treatment of animals and the human kind, the great discovery having been made that a horse requires no larger dose than a child of the same age, provided the right remedy is selected.

Mansfield, Tioga Co., Pa., Feb., 1863. JOS. P. MORRIS.

P. S.—Kerosene oil will cure chilblains. It also cures rheumatic pains and stiffness of the joints in the human subject.

Coal Tar for Fence Posts.

Messrs. Tucker & Son—I would say to J. P. of Pittsburgh, Pa., in regard to coal tar preserving fence posts, that seven years last spring, I built one mile of board fence. My posts were of white oak and black oak timber. I had them split out. I then had a carpenter straighten one side of the post before putting on the tar. I have a large boiler which holds over a barrel of tar. I then put in the tar and bring it to a boil. I then put the post into the tar, so that the tar will come about six inches above the ground after the post is set. I leave the post about one minute in the tar. I examined my posts last fall, and they appeared to be as sound as the day I set them.

Eight years ago last spring, I built 20 rods, with sawed posts. They were all of white oak timber. I did not tar them, and there is one-half of them rotted off now. I do not set a post now without tarring it.

Marshall. Mich. S. P. WORMLEY.

A Good and Healthful Substitute for Coffee.

Rye scalded, and carrots chopped and browned in the stove oven, in the proportion of two of the former to one of the latter, make a rich looking and better tasted coffee than the rascally compounds put up and sold under the name of coffee. It is said a few kernels good coffee roasted with it, will impart a perfect coffee aroma, and may be separated and used for successive roastings. R. W. M. *Durham*, *Conn*.

THE KELSEY HARROW.

Messrs. Editors—What I claim for this harrow, (fig. 1.) is that it is perfect as a harrow—that is to say, that it harrows all the ground exactly alike. It is easily handled by man or boy, the connection with the team being such as to give the driver perfect command of it.

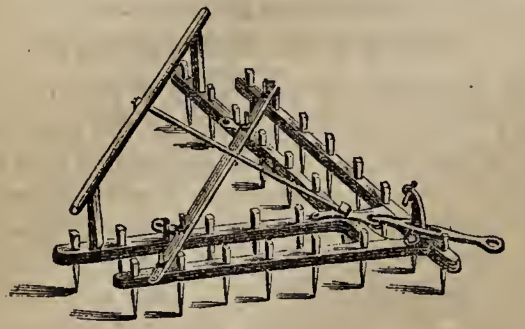


Fig. 1.

As a "Crab harrow," fig. 2, for the purpose of harrowing corn the first time, it has no equal. The "Crab harrow" is produced by merely hooking a bail into the eyes where the scraper is attached, and hitching the team to the loop A., and removing the three centre teeth, and run it backwards straddle of a row of corn, with the driver walking on the side of the handle that is attached for the purpose, and he has perfect command of the two teeth that are run nearest the row.

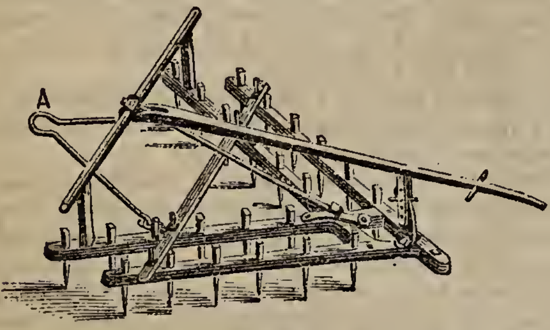


Fig. 2.

As a harrow and scraper combined, fig. 3, for the purpose of smoothing down the little inequalities in the soil, or in other words to make water run everywhere and lay nowhere, and rendering the operation of the mowing machine a more easy, pleasant and economical performance, I think it difficult to conceive anything more perfect. Jno. Kelsey.

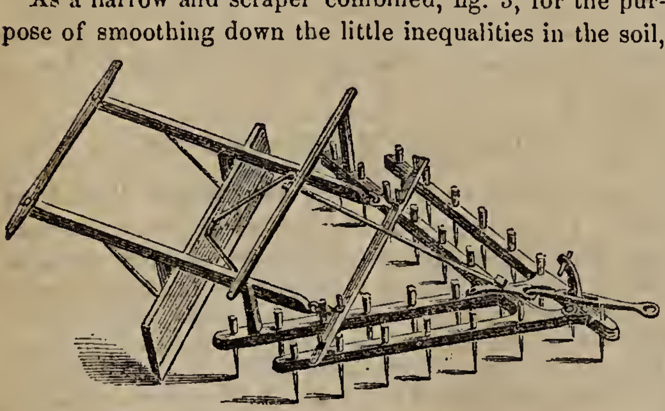


Fig. 3.

Prospect Farm, near Yardleyville, Bucks Co., Pa., Feb., 1863.

◆

SUPPORTS FOR CLIMBERS.

A correspondent desires us to furnish him some instructions on the subject of climbing ornamentals, and the best way to provide supports for them.

The plants most suitable for this purpose are pretty well known; we may, however, name the Honeysuckles, the Prairie Roses, the Virginia Creeper, Trumpet Creeper, Bittersweet, (*Celastrus*,) Aristolochia, the hardiest species of Clematis, Periploca, Wistaria, &c. There are several annual climbers, such as the Morning Glory, Cypress vine, Loasa, &c.

Supports for climbers are of various kinds. Some make elaborate wooden structures, variously ornamented with carved work, forgetting that all the ornaments should be derived from the plants themselves. We prefer a simple and even rustic support. The simplest is shown in fig. 1, at A, and consists merely of a tapering scantling set firmly in the ground, and bored with holes at intervals from bottom to top. It is adapted to such strong and luxuriant growers as the Prairie roses, the stems being drawn through the holes in alternate directions as they ascend in growth. In the course of two or three years, if the ground has been kept well cultivated, they will present the appearance of the fine columns of verdure and flowers shown at B. If different colored varieties are employed, blooming at the same time, such for example as the Baltimore Belle and Prairie Queen, the column will present a beautiful variegated appearance. Plants of a less rapid and luxuriant growth may be supported by the addition of the horizontal sticks shown in fig. 2. These supports should be made of durable wood, painted brown, or some neutral color, and it is the plants alone that are to be conspicuous. If red cedar or locust is used for the part below ground, they will last many years. It sometimes becomes desirable when the climbers are tender to lay them down for a covering in winter; this may be easily effected by means of the contrivance exhibited in fig. 3; the upper pin *b* being withdrawn, the whole is prostrated, as shown by fig. 4.

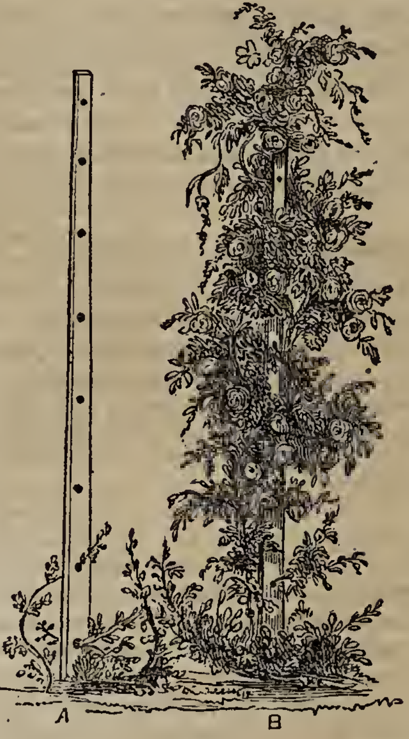


Fig. 1.

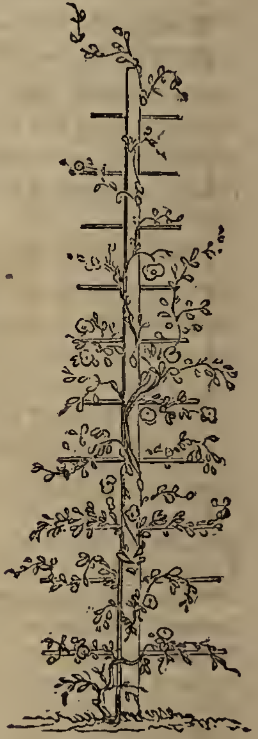


Fig. 2.

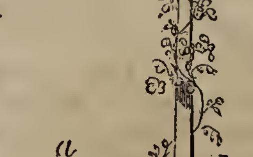


Fig. 3.

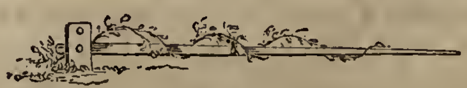
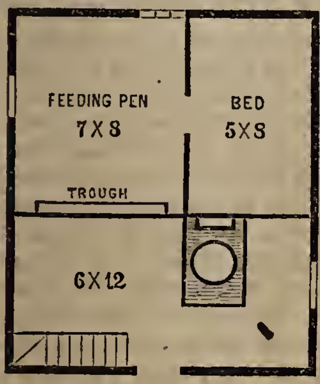


Fig. 4.

HOG-PEN AND CORN-HOUSE.

I wish to ask some questions about building a hog-pen—one suitable for a small farmer, who keeps two cows, and owns about twenty-five acres of land. I have been farming my land in partnership with a friend who owns a much larger farm, and has all the necessary buildings; but now, having got a house built on my own premises, I find I want to keep a pig or two, near by, to consume the slops and refuse fruit and vegetables. It seems to me that after a hen-house (which I have got) I need next a pig-pen, and may as well build one suitable to my farm, when I come to work it alone if I should conclude to do so.



How would this size and arrangement accommodate me? The door faces the east. The feeding pen is entered by a door under the west window, on the south side. The manure window is on the west end. I want some kind of arrangement for cooking food—perhaps a kettle set in an arch of brick or stone. The garret will furnish some store room.(1.)

I should wish to keep my corn in a crib out of the reach of rats or mice. How high ought the posts to be, and would the wall on which it stands need to rise over ten inches above the surface of the ground?(2.) WHITE.

1. The plan given by our correspondent appears to be a good one, when the animals are all the same size, and is intended we suppose for the time when he shall have considerable number. A more extensive and perfect piggery is figured in the annexed plan and view.

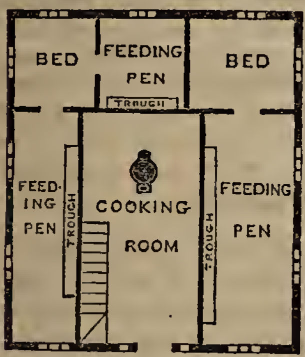


Fig. 2—Plan of Piggery.

A plan of this building is shown in fig. 2, where the larger feeding pen and lodging-room, on the right, are occupied by the larger animals; those of medium size on the left, and the smaller ones by the central pen. An end or east view of this building is shown in fig. 3, exhibiting the large ventilator to preserve pure air, behind the cooking-room chimney. Great pains are taken to keep all the pens dry, clean, and suitably littered.

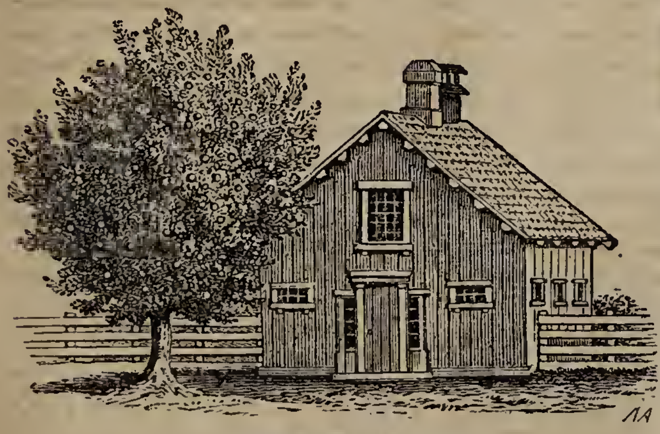


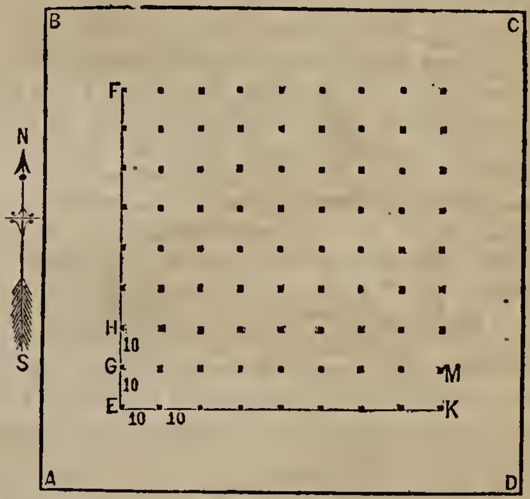
Fig. 3—End View of Piggery.

2. Where a corn-house stands on round, smooth timber pillars to prevent the access of rats, these pillars should be at least two feet high, and be surmounted by inverted tin pans without wire rims, as the rats sometimes seize hold of these rims to help themselves upwards. A neater support consists of square brick pillars, the upper half with square casings of sheet tin.

PLANTING DWARF TREES.

[We have been favored by a young correspondent with the following description of the best mode we have met with, for setting out a dwarf pear orchard. He has set out many thousand trees in this way, and we can bear witness of the mathematical accuracy of the rows in his own orchard. The rapidity of this mode of planting strongly recommends it—three men planting four hundred trees on an average per day, in the best manner.]

Messrs. Editors—A rapid and accurate method of planting dwarf trees, so that an observer, looking in any direction from the centre of the orchard, may find the trees exactly in line with each other, would perhaps be of value to some of your readers. The superior neatness of such a style of planting is its sufficient recommendation; to say nothing of the consequent facility of cultivation east and west, as well as north and south. As "the books" seem to have left orchardists to engineer this matter for themselves, I offer the following plan, which has been found to work well in my own experience.



Suppose A. B. C. D. to represent a field which has been enriched and properly prepared by deep plowing and repeated dragging, and is to be planted with dwarf pear trees, 10 feet apart. Provide yourself with a line and a light pole 20 feet long, notched in the middle. Plant a tree at the point E., equidistant from the fences A. B. and A. D.—stretch your line from E. to F. parallel to the fence A. B. Having taken your place on the east side of the line, while your attendant stands ready with his spade on the west side, lay your pole along the line and about 2 inches east of it, placing the south end at the point E. The notch in the middle will show your assistant where to make the hole, and a little care will enable him to dig under the line (so far as may be necessary,) without disturbing it. When the hole is large enough, set the tree at the point G., against the west side of the line and opposite the notch.

Plant a tree at H., at the end of the pole in a similar manner. Then carefully notice the exact spot *on the ground*, to which the north end of the pole corresponds. Take up the pole and shift it 20 feet northward, placing the hinder end of it precisely where the front end was before. You thus have the places determined for planting two more trees.

When the row E. F. is finished, plant the row E. K. in a similar way, being careful to place all the trees on the south side of the line, for convenience of shifting it.

Having reached the point K., move your line 10 feet north, placing the west end of it against the north side of the tree at G. Then measure eastward from the tree at G., and plant the row G. M., placing the trees as before on the south side of the line.

Each row is thus to be planted by measurements from the base line E. F. With care in measuring, the trees will be found to *row* in any direction. The time occupied in shifting the pole along is much less than that which is consumed by the ordinary method of ranging from stakes.

M.

[For the Country Gentleman and Cultivator.]

LETTER FROM PRUSSIA.

Heavy Crops on Poor Soil---Interesting Investigations by Dr. Stockhardt.

Seven miles from the Prussian fortress Minden, on the left bank of the Bastan creek, lies a tract of land on which for centuries, a singular method of farming has been practised with great success. The tract comprises about 3,000 acres of plowed land, and is divided into many small farms of from 15 to 70 acres each. The soil is a loamy sand, very deep, with sandy sub-soil, and the land is assessed in the third class, (there being eight classes in all.) The soil is rather of inferior quality. Wheat barley, beans and peas, cannot be raised on it at all; neither would beets or ruta bagas pay for cultivation; white clover would not grow, and red clover would be a very uncertain crop; even oats do not succeed, and are sown but to a small extent. Hardly anything is raised but rye, potatoes, turnips, and a little buckwheat. Of these rye is the main crop. The farmers there speak of hundred-year rye fields, and the oldest inhabitants assure us that on many fields they have seen rye raised every year of their life. At the same time their crops of rye are almost invariably good, much better than on the better soil of the neighboring districts. The latter consist of a rich deep loam, on which barley, wheat, clover, rye, beets, etc., all grow finely; there are large farms there, with abundance of stock, a good rotation of crops has been adopted, and many of the owners are buying every year a great deal of feed, as well as of fertilizers. Still their crops of rye are seldom equal, and often inferior, to those of the first described poor district; they are principally injured and lessened by lodging of the straw, so that while looking splendid in the early part of the season, the yield of grain often is rather scanty. In the present year, for instance, the rye crop on those rich lands does not average more than 16 bushels per acre, while on the first described poorer district, (which I will call Hille, after the name of the principal village,) the yield has been 27 to 29 bushels; (American measure and American acre.) The potato crop, also, has been excellent always in Hille, even the worst years of the disease, and large quantities have been shipped from there annually. The straw of the rye in Hille is rather shorter than that of the neighboring districts, but it hardly ever lodges, and the grain is always heavy and of very good quality. Now it is singular that the farmers of Hille never buy either feed or fertilizers; they have no marl-beds; their meadows are of poor quality, growing most inferior grasses, and requiring manuring themselves, and their lands are situated on high dry ground, never receiving the benefit of an inundation. It seems very strange, therefore, that in so poor a district farmers have been enabled to sell for centuries, the strength of their soil, without disastrous results.

The secret lies altogether in the treatment of the manure. Every field is manured every other year. But when the manure was taken to the field directly from the stables, or when barn-yard manure was used in its natural state, which is the common practice throughout the country, very inferior crops have always been the result. By following this common practice, the farmers of Hille would soon see their fields completely exhausted; therefore they convert all their manure into compost. To obtain material for the compost heap, they skim every sod off that can be found on road-sides, ditches, &c., and carefully collect all offals of house and field. But as there is no waste land, this source can yield but a small portion of the required material. The main part they take from the fields themselves. The fields are plowed in lands slightly ridged. In plowing the stubble directly after harvest, the farmer will leave a strip on each land unplowed; this strip is dug out a foot deep and the dirt hauled to the yard. Whenever manure is thrown out of the stable, thick layers of dirt are placed between the layers of manure; the whole heap is left to ferment for months; two weeks before the time of drawing the manure to the field, the whole compost heap is forked over. This method certainly requires a great deal of labor, but it pays for all outlay. By its aid the crops are at least double of what otherwise could be grown on such soil. Nor is it difficult to find an explanation for such results of compost making. We know that the soil contains a large store of the substances required for the growth of plants, in an insoluble state. The formation of gases and the heat created by the fermentation of the compost-heap, must be the means to transform these insoluble substances and make them available. According to an analysis made lately by Dr. Stockhardt, the soil of a certain field contained per acre, in a depth of 12 inches, 9,000 lbs., (German pounds, of which 100 are equal to 107 American lbs.,) of phosphoric acid, 75,000 of alkalies, etc. As 27 bushels of rye contain only 12¾ lbs. of phosphoric acid, and 8⅝ lbs. of alkalies, the soil analyzed by Stockhardt contains phosphoric acid sufficient for 706 heavy crops of rye, and alkalies enough for 8,695 crops. Such a soil would therefore be capable of sustaining for a long time an exhausting system of cropping, if means can be found to make all its insoluble ingredients available. Dr. Stockhardt has lately made some interesting experiments to ascertain the time necessary for making insoluble ingredients of the soil soluble. He took a sample of rich soil which contained per acre 870 lbs. of alkalies, 90 lbs. of phosphoric acid, 360 lbs. of silica, altogether 2,550 lbs. of mineral substances, in a soluble state. All these soluble substances were completely washed out by water, and the sample of soil then exposed to the alternate action of air and water. After five months, 405 lbs. of alkalies, 45 lbs. of phosphoric acid, 300 lbs. of silica, altogether 2,640 lbs. of mineral substances (per acre, and 12 inches deep) had again become soluble.

The favorable effects of compost manuring are proved by experience in innumerable cases. If practiced in such extreme manner as in the district of Hille, it must finally lead to an exhaustion of the soil; but many of our best farmers think that the same amount of money expended for compost making, gives much better and surer returns than when invested for guano. L.

Munster, Prussia, December, 1862.

WASH FOR BARNS.

There is no cheap substitute for oil paint. All the different kinds of white-washing are incapable of shutting out moisture. The sides of buildings especially exposed to rains, will lose a portion of any kind of wash by the combined action of frost and moisture. Oil paint obviates this difficulty.

There are many different kinds of wash recommended; but with a single exception we have never found anything better than a mixture of good lime with water. This exception we have made a thorough trial with. A rough barn, which received a coating four years ago, now retains most of it, although a considerable portion is scaled off on the most exposed side. This wash is made substantially as follows: One peck of fine beach sand, three pecks of water lime, and four quarts of salt. These proportions might vary without detriment—there should be as much sand as can be conveniently applied with a brush. A farm laborer applied this mixture early last summer to two rough barns, one about 30 by 55 feet, the other 20 by 30, in three and a half days, consuming two bushels of water lime which was nearly the whole cost of material. This coating, now nearly one year's standing, appears to be as good as the day it was put on. It will be perceived that the expense is only about one-tenth the cost of a coat of paint.

☞ We learn that R. AITCHISON ALEXANDER, Esq., whose Short-Horn Herd is probably the largest and certainly one of the best in the country, proposes to have a large sale of Improved Stock in June next, at his residence, Spring Station, Woodford Co., Ky.

THE CULTURE OF FLAX.

Messrs. Editors—I have been tempted for a month or two past to call your attention to the subject of flax culture, which seems to me at this time to be of special importance.

The quotations to-day, of Calcutta Linseed, are $3.97 to $4 per bushel of 52 lbs., which would bring American flaxseed at about $3.30 per bushel of 56 lbs., in the usual proportion of prices. Flax is quoted at 25 to 30 cents per lb., by the various holders of that grown in this county.

It would seem to me to be most desirable to stimulate the production here to the utmost limit, both for the profit of the producer and the effect on exchange.

I notice that the various grades of wheat are quoted at $1.39 to $1.95 per bushel, and from all reports I have seen, it is fair to count the crop of flaxseed as about two-thirds that of wheat per acre on lands suited to it. Say ten bushels flaxseed to fifteen bushels wheat, would give, at $1.65 for wheat, $24.85, and for flaxseed at $3.30, $33. A balance in favor of flaxseed of $8.15 per acre, besides the difference between the value of the flax-straw and the wheat-straw, which is more than enough to cover all the extra expense of seed, cultivation, and securing the crop. Where there are good facilities for dressing the lint, an average crop at present prices, say 250 lbs. per acre, would add largely to the profit.

I hope that either yourselves or some of your correspondents, will furnish your columns with a series of articles on the subject, with a view to disseminate the fullest information in regard to the culture of flax, the proper soils for its growth, and the peculiar treatment required upon the different soils upon which it can be grown.

It seems to me the truest kind of patriotism in the present hour of our country's trial, to take unsparing pains to develop every material resource possible, and being from my occupation somewhat conversant with the use of this product, I have ventured to call attention to it in this manner. A. E. Powers. *Lansingburgh, N. Y.*

HEMP CULTURE.

Messrs. Luther Tucker and Son—I observe in your number of Feb. 12, an article from J. C. A., desiring information in regard to hemp raising. As I have been cultivating this crop for 12 or 13 successive years, I will give my experience on the subject. The best soil is a black rich mould, underlying which should be a tough yellow clay, such as you generally find in our best soils in Kentucky and the Western States. The ground should be plowed in March, then rebroke in the first days of May or just before sowing time, and have the land as free from clods as possible. Now, say from the first to the tenth of May, you may commence sowing, putting on strong land about one and a quarter bushels of clean seed broadcast. Following the sower, you will harrow in, being particular that your harrow shall run crosswise the last plowing, thus covering the seed to a sufficient depth. After harrowing both ways, you will roll carefully, and the work of sowing is completed.

When the leaves in the month of August begin to turn yellow, and a dust peculiar to hemp begins to rise, you will cut as near the ground as possible with the Kentucky hemp knife. Then after 2 or 3 days curing, tie up in proper sized bundles and stack immediately after the binders. It should remain in the stacks until the first or second week in November, when the spreading, preparatory to watering, should begin.

It will, in usual seasons, require from 2½ to 4 months time before the process of breaking can commence, which is best done with the Missouri and Kentucky hemp brake. The best hands, with properly watered hemp, will be able to break and clean ready for market, from 100 to 250 lbs. per day. For the convenience of shipping or hauling, it is best to bale in quantities containing about 150 or 200 lbs. to the bale.

The seed can best be raised as you would cultivate Indian corn, by plowing, being careful to pull out the non-bearing stalks, topping the seed stalks, which will cause it to branch and to bear heavily.

Our best western soils will produce from 600 to 1,100 pounds per acre, which, at the present prices, you will perceive will remunerate the farmer handsomely—perhaps better than most other crops, particularly when we remember that hemp is very slightly injurious to the soil, as it is frequently cultivated successfully on the same ground for 8 or 10 successive years.

A vast source of profit will be derived by our farmers who will cultivate this crop, as from the present scarcity of cotton, it will doubtless be used to a large extent for clothing as well as for the many purposes for which it has entered into competition as one of the great staples of our country. Isaac P. Shelby.

Ruemont, Fayette Co., Ky.

SPENT TAN AS FUEL AND MANURE.

Piles of this refuse may be had at the tanneries, which, by the adjacent farmer, may be turned to good account. I have done it myself, and perhaps others may find my experience useful to them,—as an absorbent in my cow stables, bedding for the cows, and as a divider, and eventually a manure in the soil. I obtain it thus: Adjoining my stable, in the rear of my cows, I erected a rough board shed of size sufficient to contain a winter stock of bedding—100 loads for 40 cows, or one load per day. The roof, about seven feet high at the eaves, is battened with slats, and is rather flat.

Whenever the team may be spared an hour in summer it is made to haul a load of tan, which is thrown on top of this shed, and spread out as it is thrown from the wagon. The sun and wind soon dries out most of the water, and by moving the slabs it falls down into the shed, the most excellent material for bedding cows and absorbing the fluids. Thus the shed should be filled ready for winter use. If thus dried out it will not freeze, and may be shoveled directly under the cows. In the morning before milking, all wet portions are drawn back by the hoe, and mixed with the offal. When the cows are turned out for an airing the cart passes through the stable, receiving the whole, and conveys it to the field. I thus get two loads per day of what I call the very best manure. At any rate I get *all* that comes from the cows, in a mixed and easily divisible state. The first dragging prepares it for thorough incorporation with the soil. The bulk, aside from the fluid absorbed, is probably of no manurial value till it rots, but until that time, it is an excellent divider for heavy soils.

In plowing and cultivating I have often noticed the single pieces of this bark covered with a white mold. Whether this indicates that moisture is retained, and heat generated sufficient to be of any value to a crop, I leave to the scientific to determine. I only know my crops are good where I use it. As to any loss in thus exposing the manure to the air, I can only say I am not aware of any loss; I have never seen or heard of any manurial substance escaping from my fields on to my neighbors', and have not observed that their crops indicated that such was the case.

As fuel I have used this spent tan by keeping a load or two in the cellar, so exposed to the heat of the furnace that it gradually dries out. When dry it burns well in connection with coal in limited quantities, and also with wood in a large old fashioned box-stove. As the cost is little, I consider it a good economy to always have a pile on hand drying out. The ashes will fully pay the cost of hauling, if used upon the field. Those not using furnaces, which heat up the cellar like mine, might dry the tan in the summer, and store under cover as it dries out. A shed with open sides, admitting the sun and wind, would be very proper for the purpose. S. W. Hall.

Elmira, N. Y.

FARMING HINTS FOR APRIL.

Fences.—One of the earliest tasks that can claim the farmer's attention is repairing fences. Systematic managers, whose farms are divided by common rail structures, after having determined about how long they will continue, say six years, divide their whole farm into six parts, and repair a sixth each year—this keeps all in good order without further trouble, and without having too much to attend to one season, and but little another. Board fences should be annually examined throughout their whole length, and loose boards nailed tight. New board fences should never be battened on the face or joints over the posts, as the practice tends to cause decay; but in the course of 15 or 20 years, when the ends begin to rot and become loosened, battens will secure and make them strong for several years longer. If farmers are able to replace their old worm fences with post and rail, board, or stone fences, they should begin on one side and construct a certain amount each year, keeping a register of the same. Then, in future years, when repairs are needed, they can go through in the same way and in the same number of years.

The importance of good fences is well understood by those who have observed the difference between crops safe from all intruders, and those occasionally trodden down and ruined; between moving on with the work without interruption, and the frequent annoyance of stopping important operations, to run after intruding cattle, colts and pigs.

Meadows.—As soon as these are dry enough to bear feet without injury to the turf, they should be carefully picked of all loose and projecting stones, which might injure a mowing machine, and then well rolled so as to make the surface as smooth and perfect as possible. Stumps should be dug or pulled out, accidental brush or other rubbish removed, and small hillocks levelled down. The farmer who has seen a mowing machine broken, at a cost of five dollars, and a delay of a day, by a stone that might have been removed in five minutes, will appreciate the importance, comfort, and economy of a smooth surface. There is some satisfaction in the reflection that new farm machinery is going to *compel* the adoption of a smoother and more perfect kind of farming.

Much is lost by the imperfect thin, and uneven seeding of meadows. Bare spots and thin grass, amounting, as they very often do, to one-fourth of the whole surface, would make a total loss of five acres in every twenty-acre meadow. Sometimes the loss amounts to much more. The importance of thick and even seeding is not sufficiently appreciated. Thin or bare patches in existing meadows may be covered with grass by running over the meadow with a fine-tooth harrow the first day the surface is dry, then sowing a mixture of clover and timothy, and rolling the seed in. If the meadow has been top-dressed with fine manure in autumn or winter, the harrowing will mix it with the surface, and assist the germination of the seed, as well as its subsequent vigorous growth.

Meadows which were top-dressed with coarse manure in autumn or winter, which was more or less spread in lumps, should be harrowed as early as possible, so as break those lumps and spread the whole uniformly. Cattle droppings, on meadows or pastures, should be finely beaten to pieces and well scattered over the surface, as soon as the frost will admit, and before the frost has all disappeared from the soil. It is scarcely necessary to mention that no good farmer ever allows either his meadows or pastures to be touched by a hoof early in spring while the ground is soft.

Teams.—Every good manager has already taken care to have his teams in excellent order for the heavy work of spring—but as they have not been much accustomed to hard and steady work, it would be advisable to plow only half a day at a time with them at first until they become well accustomed to it, using them the other half-days for job work, light teaming, &c. A little care in this respect will often prevent sore shoulders and reduced condition. The harness should be examined frequently to see that it fits well and to prevent chafing. It will be observed that when horses are plowing, the traces draw downward, and when attached to a wagon, horizontally; the back straps should therefore be lengthened a little when they are removed from the wagon to the plow.

Plowing.—Light or gravelly soils which quickly become dry may be plowed at almost any time; but rich loams should be taken at precisely the right period. If plowed too early while yet wet, they may become poached and injured for the season. If left too late, the spring rains may have settled back what the frosts of winter have loosened. Plowing *well* saves much labor in subsequent tillage. Narrow furrow slices (except with sward) pulverize the soil more perfectly, and leave a beautiful mellow surface. Furrows seven or eight inches deep, and only six inches wide are easy for the team, and leave the land in very handsome condition.

Manure.—This may be applied with advantage to spring crops, if it is in such condition as to be pulverized finely. After spreading, it should always be thoroughly harrowed, and broken and intermixed with the top soil before plowing under. Coarse manure should be used in compost heaps. If very strawy, throw it up into heaps in the yard for remaining during the summer; if less strawy, draw it out to the fields where it is to be applied, and make compost heaps by thin alternating layers of turf or loam and manure.

Carrots.—Failure often results with this crop by being planted too late—the seeds miss, the sun burns the plants. Get them in as early as possible, or as soon as the ground can be made thoroughly mellow. It does not pay to plant carrots on foul or weedy ground. The labor of hoeing will be too great, but if the ground is clean, rich and mellow, carrots may be made eminently profitable. Farmers often think it necessary to turn their animals on early grass, thus injuring the turf; but a supply of carrots in spring would give them all the advantages of early green food, and none of its drawbacks.

Barley and Oats.—Sow these as early as the seed can be put in, on well prepared land—we have known a delay of two weeks to lessen the crop equal to its entire nett profit.

Potatoes should also be planted early for the great mass of experience is in favor of early planting to prevent rot.

Calves.—The great secret of success in raising calves, after keeping them clean and comfortable, is very regular and uniform feeding, combined with nutritious food, and avoiding all sudden changes in their food. On the whole, it is best to wean them very early, as they will then never suck the cow again, nor themselves. Their food may at first be new milk, then warm skimmed milk, then skimmed milk with meal intermixed, thus passing from new milk to common food with meal, and being especially careful that all these changes should be very gradual, and almost imperceptible.

Wheat Crops.—Red root and cockle should be pulled early, and not a vestige of either left.

Rainy days.—Clear out all rubbish from cellars, and keep them clean and well purified. Examine and repair tools, and have them all in perfect order for the busy season now about to commence. Grease waggons, oil harness, brush up stables, examine and render perfectly clean all seed for sowing and planting. Prepare account books, and keep an accurate account with every field.

Orchards and Shade Trees.—The enterprising farmer should not forget these. The time for planting may vary considerably with circumstances—if they have been dug up early before the buds have swollen, and have been well heeled in, they may be set out safely, even after the leaves on standing trees have begun to appear. The great point is to take up the *roots* with them; they are commonly nearly all left behind: stems and tops are not of much value without roots. If this point has been carefully attended to, and the roots have been well spread out in every direction when set, and placed compactly in fine earth, they cannot fail to grow; there is no use in losing one in a thousand. After that, the great requisite is to keep the surface mellow and well cultivated.

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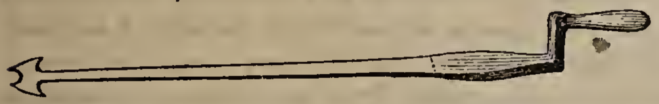
[For the Country Gentleman and Cultivator.]

REPAIRING SHINGLED ROOFS.

Messrs. Editors—The accompanying drawing represents a tool called a "Roughter," used by slaters for cutting the nails found when removing broken slates, in repairing slate-roofs. It is found to be equally useful for cutting the nails, when removing decayed or injured shingles, in repairing shingle-roofs. The figure represents the upper side of the cutting-*bit*, *blade*, and *stock*, with a *side-view* of the *rise* and *handle*. The bit and blade are of steel; the stock, rise, and handle, of iron. The bit is 1¾ inches long, 2¼ inches broad across the *wings*, and one-eighth of an inch thick; the blade is 18 inches long from the bit to the stock, (shown by dotted line,) where it is 1½ inches wide, and three-sixteenths of an inch thick, tapering in width and thickness to the bit, where it is seven-eighths of an inch wide—the thickness that of the bit. The blade is of a rounding form on the upper side, its two edges being thinner than the middle, in order that in using, it may be moved widthwise of the shingles with less friction. The scollops of the bit are bevelled on the upper side. The bit is sufficiently hard to cut iron; the blade of spring-temper. The *stock* is five inches long from the dotted line to the rise, 1¾ inches wide in the widest part, and 2½ inches of its length next to the rise is three-fourths of an inch thick, the other 2½ inches tapering in thickness to match the blade. It is requisite that the stock should be thus heavy, in order to have the advantage of momentum, or blow given, in cutting the nails, and to save using the hammer against the rise for that purpose. The rise is 1¾ inches in length or *height*, 1 inch wide, three-fourths of an inch thick, and the corners taken off. The *handle* is 4½ inches long, and seven-eighths of an inch in diameter.



Now as to repairing a leaky roof: the best time is in damp weather, so that the shingles may lie smooth. In order to find the leak, use a dirk-pointed jack-knife; place the point betwixt the edges of two shingles, close up to the butt of the shingle in the next course above, and ascertain whether the shingles beneath are shakey or decayed, for if so, the point of the knife will pass easily through them. Then, to remove the shingle, thrust the *roughter* up under it, so as to cut the nails, when the shingle can be drawn out by the hand, or (what is convenient for that purpose,) "*plier tongs*," the handles 9 inches long, with knobs on the ends, the jaws 3 inches long, and three-fourths of an inch wide, and the ends of a wedge form. When thus repairing, the last shingle put in will have to be nailed on the outside, which may be done with a small lath nail—simply to prevent the shingle from slipping down. In this way, with the roughter, (which in peace times, in this locality, would cost about $1.50,) a roof can be repaired in a workmanlike manner. The shingles will lie as true in course, and as smooth, as when newly shingled.

I would remark that shingling is not a difficult thing to do. It does not require much practice, but rather good judgment, so as to know how the shingles should be laid. Any person that has sufficient mechanical skill to make a hen-coop, pig-pen, a piece of post and rail, or post and board fence, in a workmanlike manner, can learn to shingle in one hour, if he will only try. The best way to proceed, is to lay but one course of shingles at a time, and to be as particular to break joints with the second course of shingles beneath, as with the first. Otherwise, should the shingle beneath split to correspond with the matched edges above, (which often occurs by shrinking,) the water will pass down first between the matched edges above the split, then through the split, then between the matched edges beneath the split to the roof-boards, which would be a leak. I think the better way for a person having use for a roughter, and wishing one made, would be to make a pattern for the blacksmith to work by. It would be better to make it of three pieces of wood, nailed or dove-tailed and glued together at the corners.

Bethlehem, N. Y., March, 1863. AMOS FISH.

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[For the Country Gentleman and Cultivator.]

WASH FOR BUILDINGS.

Messrs. Editors—You have given us in the Country Gentleman of March 5th, a recipe for a wash for buildings, &c. The following preparation has given me and my neighbors perfect satisfaction:

Take a clean barrel that will hold water; put into it half a bushel of quick lime, and slack it by pouring over it boiling water sufficient to cover it four or five inches deep, and stirring it until it is slaked.

Dissolve in water and add two pounds of sulphate of zinc, (white vitriol,) and one pound of common salt, which will cause the wash to harden on the woodwork in a few days; add sufficient water to bring it to the consistency of thick whitewash.

To make the above wash of a pleasant cream color, add three pounds of yellow ochre.

For fawn color, add four pounds umber, one pound Indian red, and one pound lamp black.

For grey or stone color, add four pounds raw umber and two pounds lamp black.

The following is the formula for the whitewash used for the minor buildings connected with the President's residence at Washington, D. C., both externally and internally:

Slack six pounds of lime in hot water, covered from the air. Pass it through a seive in a liquid state. Add one-quarter of a pound of whiting or the same quantity of pulverized burnt alum, one pound of white sugar, three pints of rice flour made into a paste, and one pound of glue, (light colored.) Add five gallons of boiling water to the whole mixture. Apply it warm to the outside of buildings, and cold on the inside. One pint will cover a square yard of outside work. Shawmut. *Brookline*, *Mass.*

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☞ The next exhibition of the Provincial Agricultural Society of Canada West, is to be held at the city of Kingston, on the 22d, 23d, 24th, and 25th days of September, 1863.

BUCKTHORN HEDGES.

Will any one who understands the Buckthorn hedge, inform me through The Cultivator, how to propagate and cultivate the Buckthorn for a hedge? Can it be grown from the seed? If so, how and when sown? Can it be grown from slips? If so, how and when set? Will cattle or sheep eat the plants? Could it be made successful for a hedge, it would be a great benefit to the farmers of Berkshire. A. P. Viets. *Hancock, Mass., Feb.*, '63.

The Buckthorn is raised from seed—it does not grow readily from cuttings. Wash the pulp from the seed in autumn, and then manage and plant them precisely like apple seeds, and they will grow as readily and freely. The fibers of the roots being numerous, they may be transplanted with scarcely any loss—not one in ten thousand need fail if well set out and cultivated. The land should be fertile, or the growth will be feeble, and they should be kept well cultivated for some years, by passing a horse cultivator on each side of the row. Buckthorn hedges will not flourish in the shade of other trees, nor in a soil covered with grass. The mode of cutting back and training is figured and described on page 268 of the Illustrated Annual Register for 1860, or 2d vol. Rural Affairs. As the bark and stems have a very repulsive taste, cattle and sheep will not touch them.

MANAGEMENT OF BEES.

The queen bee, the mother of the swarm, chooses the central part of the hive for depositing her eggs. This fact is understood by every observing bee-keeper. If the hive is only a square box, if it is taken down at the breeding season, it will be found that the honey is stored mostly in the upper part of the hive, and in the side sheets and outer edges of the comb, and the central portions of it, nearly to the bottom of the hive or pretty well down, are filled with brood; and whoever has had occasion to remove the stores from the hive after the breeding and honey season has passed or has witnessed its removal, has observed that the top of the comb for some inches, is filled with clear honey, suited to save for table use; and that a portion of that in the outside sheets partakes of the same character. The central portions, after the brood have been hatched out, have been filled down with honey, as the honey season has held out, and present a sheet with some cells filled with honey, some with bee bread and some half filled with bread, unfit for use but by careful straining, and then not suitable for table use. This manner of proceeding discloses His wisdom who taught them instinctively to pursue this course. The queen places her brood where the greatest degree of warmth is felt from the surrounding swarm, to carry through the hatching of the eggs deposited by her, and developing the perfect insect. In this central position, they are more perfectly guarded from foes, by the swarm that surrounds them.

It should likewise teach those who would profit by their labors, the proper manner to secure the surplus. There is much difference in the estimated value of clean white honey in the comb, and honey strained from the comb. There is much difference in honey in the comb cut in pieces, and a part of it drained out, brought to market in a pail or tub, or brought in a neat box as stored by the bees, and its quality readily discovered through the glass sides of the box. These facts suggest the propriety of an arrangement to give them boxes for storing the honey on the top and sides of the hive. And if care is taken not to have the boxes of too great depth, with plenty of room in the body of the hive for the purpose of breeding, there is little danger that the queen will deposit its eggs in the comb in the boxes.

The use of boxes upon the top of the hive and sides, has long been understood, but there has been a difference of opinion or practice on the question, " how much the room of the hive should be actually increased by boxes." We believe the most general practice has been to give one or two boxes at a time, and as often as filled, remove them, and put empty boxes in their places; and these have generally been placed upon the top of the hive. I think the questions—"should the capacity of the hive be greatly increased, by the addition of boxes? To what extent, and how should they be placed?" are deserving careful consideration.

Albany, N. Y. J. HAZEN.

Product of a Small Dairy.

Messrs. Editors—I send you the product of my small dairy of seven cows, for the year 1862. Whole amount of butter made was 1,603 pounds 10 ounces, or a fraction over 229 pounds per cow. This is about 19 pounds less than the same cows averaged the year before. I attribute this falling off to the dry weather. All soiling crops lacked succulence, and the second crop of clover grew very slow but dried up very fast, so that it was poor feed for cows giving milk; and fearing a pinch this winter, I was more sparing of corn-fodder than I should otherwise have been. Moreover, the fall feed was a very short, dry affair. I would just say, to be in the fashion, that I raised five calves, fattened three hogs, and sold one or two deacon skins; but in my own case, I think the less that is said about *this* matter, the better, for I never could raise calves or fat hogs on skimmed milk *alone*, though it is something of a help; yet the labor of feeding it is about all it is worth for making pork, at any rate. I hardly think it worth while to swell the product of the dairy by crediting the cows with the raising of so many calves, and the making of so many hundred pounds of pork, when in fact the thing was done *chiefly* in some other way. I should have said in the proper place, that milk and cream was used for a family of six persons.

Jefferson Co., N. Y., Jan. 26, 1863. J. L. R.

P. S.—I should also have stated above, that we disposed of over two hundred quarts of milk, and some quarts of cream, not by sale, but in quite as satisfactory a manner.

MERINO SHEEP.

Editors Co. Gent.—A. F. T. wishes a description of French and Spanish Merino sheep. The French are much the largest, coarsest boned sheep; shear the heaviest fleece (including yolk); have large heavy rolls or wrinkles in the skin about the neck and sometimes on the body, requiring good feed to keep them from deteriorating—sometimes liable to long coarse hair, interspersed in the wool, which is objected to by manufacturers. I have heard it said of one of the first prominent importers of French Merinos, that when a customer was ready to start with his purchase, he would say, "you must feed these sheep so and so, or they will run down on your hands."

Spanish Merinos are smaller in carcass, finer boned, closer built, shorter legged, wool of finer staple, yielding, I believe it is admitted, an equal amount of clean wool according to weight of carcass, and will admit of being kept in larger flocks.

I have ever been a great admirer of Merino sheep, having been acquainted with them from their first importation by Gen. Humphrey of Derby, Conn. I remember well the great Merino speculation, when single sheep were sold for $1,000, $1,500 to $1,800, and Levi Candy of Oxford, Conn., told me he had the offer for one sheep, "to place the sheep in one end of the scale and silver in the other until the sheep was balanced," which offer he refused. I was for a number of years a breeder and dealer in fine wool sheep, but found nothing that pleased me so well as the descendants of the first importations.

Waterbury, Conn. B. H. ANDREWS.

The Hubbard Squash in Europe.—James Levesque, an extensive market gardener on the Island of Jersey, writes to the Country Gentleman as follows:—"I have never eaten anything equal to the 'Hubbard Squash.' It beats all. I hope I shall be able to save the seed *true*. My neighbors have other sorts near me, and I am afraid mine will be crossed. They show it only from last year, and I planted them as far away as I could."

NANKIN SHEEP

EDS. CO. GENT.—I have recently noticed a request in your paper by J. B. S. of Montpelier, Vt., for information respecting "Chinese Sheep," their weight, quality of mutton, hardiness as compared with other breeds, their wool, the number of lambs at a birth, &c., &c. As I first introduced the Nankin sheep in this country, perhaps a few remarks about them may be interesting to sheep and wool-growers.

I shall go back to the commencement, when I only had three sheep of this breed, and none other of any kind. They had then just arrived from Nankin, China. These three were all ewes, from which I had, in twenty months, a clear increase of more than 70, and raised them. I am aware that this statement will not be generally credited, and I will endeavor to make it plainer by further explanation.

These three ewes were all large with lamb when I took them from the ship, and in a month or less each one had three lambs, making twelve, old and young. Then, as I had no buck at first, was compelled to wait about four and a half months for a young buck; and in nine months both old and young were coming in—the old ewes the second time—the young ewes with three lambs each, and of the old sheep, one had three lambs, one four, and the other had five lambs—the latter sheep raising the whole five, and all grew to be large sheep, and breeding twice a year. At this rate, it will not be difficult to understand how I raised 70 in twenty months. If we had taken the proper care of them, 80 or 90 might have been raised in that time, as quite a number died from the want of care, having no suitable stables, nor were they separated as they ought to have been.

I then sold the whole flock to R. L. Pell, Esq., of Esopus, Ulster Co., N. Y., except one ewe, and from it I have since raised a large flock.

The live weight of the bucks is from 175 to 200 lbs., and the ewes proportionately heavy. The quality of the mutton is the finest I ever saw, being entirely free from the strong taste common with most other breeds of sheep. The wool is coarse and long. They are easy keepers, and do not jump fences—a low stone wall is sufficient to turn them. They are quite hardy, and stand our northern winters equal to any sheep I ever saw. Their great recommendation lies in the quality and quantity of mutton that can be produced in a short time.

I have also made some valuable experiments by crossing Nankin with other breeds, which I will give you if desired. [Shall be pleased to receive the details.—EDS.]

Norwalk Island, Norwalk, Conn. THEODORE SMITH.

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THE BEST BREED OF SHEEP.

MESSRS. EDITORS—I am aware that there is a great diversity of opinion among farmers in reference to this subject, but I think a candid estimate based upon facts, with the application of figures, will readily convince the most fastidious.

We will firstly consider the Merinos, which are all the rage in many parts of the New-England States, New-York, and some portions of Canada. A flock of Merinos, weighing upon an average 100 lbs. each, would be considered a very superior lot, and would probably clip about eight pounds of wool per head at the age of two years, which, selling at 50 cents per pound, would amount to four dollars a head. At this estimate, the annual wool-clip of a flock of one hundred ewes would amount to $400. Now allowing extraordinary good luck in rearing lambs, there might be as many saved as there were ewes—these selling at the market price in the fall of the year, ($2 apiece,) would bring $200, which added to $400, would make $600 the annual income from a flock of 100 Merino ewes. But this result could not be obtained except with a very superior flock, with the best possible management.

The same sheep at the age of five years, well fitted for the market, (and I might here add that no sheep should ever be kept longer than to this age,) would realize to the owner about five dollars each. Thus an individual acquainted with the management of flocks, with a proper location, might realize from a flock of 100 ewes to start with, the sum of $2,300 in the space of three years time, as gross income.

Now then for some of the larger breeds, such as Cotswold, Leicester, Oxford-Downs, &c. The average weight of a superior lot of Canadian sheep of either of these breeds, would be about 160 lbs. Such a flock at the age of two years, would clip about 10 lbs. of wool per head, which under existing circumstances, would sell for as much as the finest quality of Merino wool, say 50 cents per pound, or $5 per head, or $500 for a flock of 100 long-wool sheep. As these sheep are very hardy, great feeders, and great milkers, and very prolific, it is not a high estimate to count on one hundred and twenty-five lambs to one hundred ewes—these selling at the market price in the fall, for mutton purposes, would readily bring $3 per head, or $375 for the lambs, which added to $500, makes the sum of $875 per annum the income from one hundred long-wool sheep. But as of the Merinos, the exercise of the greatest possible skill and care in the management of them, to obtain this result, is required. I think but very few do it in either case; still it can be done, and has been to my personal knowledge, although not on so large a scale.

But, says one in favor of Merino sheep, although you have shown the income from the long-wool sheep to be about one-third more than the other, still I claim that the cost of keeping is full one-third more than that of the Merinos. Admitted. Then we are even? Denied, for this reason—the long-wools when well fitted for market, will sell for about $12 per head or more, from the fact that the flesh is of a superior quality; and extra heavy fat sheep, as with extra heavy fat cattle, invariably sell for extra fat prices. Therefore the figures show a heavy balance in favor of the long-wool breeds, of the different classes of which I will write hereafter. They are not all entitled to the same merits; however, they are all hardy, with strong constitutions, and attain great size when properly fed in winter, aud grazed in summer. F. E. W. *Halley, C. E.*

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BROOM CORN AND HOW TO RAISE IT.

Broom corn, I think, is a profitable crop. You need good seed; it should be drilled in rows three feet apart. It must be weeded out after it gets three or four inches high, being careful not to pull up the young corn as it looks much like weeds when young and small. It should then be carefully hoed, and the cultivator and plow run between the rows; it will then grow very fast.

Some top it or break it over (the whisks,) but the best way is to let it be, and when ready, cut down the stalks and throw in rows, and after a few days cut off the stalk about 4 inches from the butt end of the whisk. Then after a few days you must tie the whisks up in bundles, and stack on the ground, putting plenty of the stalks under and around, and the whisks in; but if you have a small lot, it is best to put in the barn or under cover, to be ready to hatchel when convenient. The finer the whisks and greener, the better the brooms.

Broom-makers now charge 9 cents for making. We had ours made near Madison in this county.

North Chester, Morris Co., N. J. J. T. HOWELL.

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THE HOG CHOLERA.

A few years ago I lost several fine hogs from that disease. The following remedy saved all the rest of them: Four ounces copperas, 4 oz. cooking soda, 1 oz. sulphur. I pounded all fine together, gave each hog a tablespoonful twice a week in their feed. A short time ago a neighbor, Mr. McHenry, lost a few hogs from the same disease. I gave him the receipt, and I have not heard of other losses. G. H. M. *Baltimore Co., Md.*

THE CULTIVATOR.

ALBANY, N. Y., APRIL, 1863.

☞ The Agricultural Statistics taken under the Law of last winter, are beginning to come in. As an example of what has been done in Queens County, Mr. CORNELL furnishes the COUNTRY GENTLEMAN with the following abstract of the returns obtained by Mr. JOHN HAROLD for the Township of Oyster Bay, showing a gratifying and in some respects unexpectedly large yield:—

Agricultural Statistics of the Town of Oyster Bay, Queens Co., for the year 1862.

Hay, ...	11,902 acres, ..	16,289 tons;	average per acre,	1⅓ tons.
Wheat......	2,697 do. ..	43,177 bush.;	do.	16 bush.
Oats, ...	3,251 do. ..	71,505 do.	do.	22 do.
Rye, ...	1,480 do. ..	10,235 do.	do.	7 do.
Buckwheat.	1,028 do. ..	10,256 do.	do.	10 do.
Corn.	4,265 do. ..	123,739 do.	do.	29 do.
Potatoes,...	941 do. ..	81,562 do.	do.	86⅔ do.
Roots, ...	95⅛ do. ..	37,077 do.	do.	389 5 7 do.
Cows, ...	1,298,	157,658 lbs. butter;	average per cow,	81 7-9 lbs.
Do.	374,	193,986 galls. milk;	do.	519 gallons.
Hogs, ...	3,766 killed,	747,076 lbs. pork;	aver. per hog,	198 2-5 lbs.
Horses, ...	130 sold,	$13,805;	average per horse,	$106.20.

The whole returns in printed form, will be sent to Col. JOHNSON when ready. J. H.

It will be remembered that the time for handing in the Agricultural Statistics was extended to March 1st; but those counties in which returns are still incomplete, should not fail to go on and finish them, even if it is impossible to have them reach Albany until somewhat later in the season.

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☞ Mr. JURIAN WINNE of this county, whose operations in sheep feeding have been noticed in our columns heretofore, informs us of the result of his this winter's efforts in that direction. He fed 453 sheep, Leicesters and grades, purchased last autumn in Canada West. Out of this number there were 100 which, before leaving home for market, averaged the handsome weight of 180 pounds per head. Setting aside a few which did not thrive as well as the the rest, or for other reasons, there were 414 head, which averaged a weight of 156 pounds each at home. Of the whole number fed

54 head were sold two or three weeks ago for,......	$788.00
399 head sold last week for, ...	4,537.40
453 head averaged $11.75 per head—total,............	$5,325.40

For so large a number of animals, we need not add that these averages are extraordinarily high, and until some other locality can make a better report, we shall place Albany county "at the head" on sheep feeding.

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SHEEP SALES IN VERMONT.—One would hardly think that the sheep-breeders of Vermont, needed a paper especially devoted to their interests. If we may judge from the sales recently chronicled in the Vermont papers, the sheep-fever is already raging there pretty strongly. The Rutland Herald states that Mr. Jesse Hinds of Brandon has sold to Mr. C. D. Sweet of North Bennington, 26 two-year old and 4 yearling ewes, for $3,000, being an average of $100 each. The Middlebury Register says that C. D. Lane has sold 33 ewes and one ram for $3,000—S. S. Rockwell 18 ewes for $1,400—P. Elithrop, 6 ewe lambs for $600—S. Andrews, 7 ewes for $550—F. H. Dean, 4 ewes for $300—H. Gifford, one ram, $300. All these lots were purchased by Mr. John Foster of Guernsey Co., O. Other sales are noted as follows: Edgar Sanford sold Mr. Manholm of Ohio, 6 yearling ewes for $1,200, also 17, the balance of his yearling ewes, to Wood, Holmes & Singer of Ohio, for $1,300, making $2,500 for 23 yearling ewes. Henry Hammond sold 6 ewes for $2,000.

Through private sources we hear of other sales at even larger prices, and of offers said to have been refused at rates almost unprecedented. The warning conveyed in the report of the Executive Committee of our State Agricultural Society, referred to in our last, against carrying this excitement to farther extremes, was timely, and should receive the attentive consideration of our farmers.

It will be noticed that our Advertising columns this week contain the announcements of several flock owners, who offer good sheep for sale. We cannot but think that there are enough Merinos in the country to supply any reasonable demand, without the enhancement of rates to a purely speculative figure. It should be remembered, moreover, that other grades of wool are in active demand, at prices not far below those of the finest fleeces.

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☞ Messrs. CHARLES & VAN METER send us the following statement of fat Beeves shown at their stall in the Center Market in this city, on Saturday last:

We are exhibiting on our stalls in Center Market today, in honor of the immortal Washington, a very large collection of the finest beef we ever have had on our stalls, and all of it the production of our own Empire State.

Among the number is a four year old steer, bred by Mr. RAMSEY of Argusville, Schoharie Co., which weighed right off the cars without feed or water, 2,400 lbs., live weight. His dressed weight is as follows:

Open fore quarter, ...	463
Close do	455
Open hind quarter, ...	350
Close do.	350
	1618 lb. beef.

Making 66¼ lbs. beef to the hundred.

Hide,..	140
Tallow,...	180
	1938 pounds.

Making 79½ to hundred to the five quarterrs.

Also 2 pair of very fine oxen fed by the BATES brothers of Schuyler's Lake, Otsego Co.:

No. 1. Live weight, ...	4,510 pounds.	Beef 2,832
No. 2. do.	3,970 do.	Beef 2,394

The Ramsey steer was fed meal while at grass, which he thinks the time to make the meal pay the best, as it all tends to fatten, and not required to keep him warm as in winter. CHARLES & VAN METER.

Albany, February 20, 1863.

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CHERRIES IN CENTRAL INDIANA.—J. C. TEAS of Raysville, Ind., in a recent letter, says: "I do not find the Dukes much, if any, hardier than the Hearts; the May duke may be, but the Belle de Choisy, Belle Magnifique, Reine Hortense, Royal Duke, &c., seem as liable to be winter-killed as the large growing varieties here. Gov. Wood has done the best of any cherry tried; Belle d'Orleans next—Early Purple, Bauman's May, Sparhawk's Honey, Elton and Great Bigarreau have done well, but not so full as Gov. Wood. Bauman's May bore the fullest. Napoleon least. All the trees are young, and will probably bear better as they become older."

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"RURAL AFFAIRS."—I consider this one of the neatest and best little books extant on the subjects of which it treats. It is just such a work as every young and old farmer needs to guide him in his farm labors. If the suggestions were strictly followed, it would make and save for the possessor many dollars in the course of the year. I am so well pleased with it, that, were it to raise a nine-by-nine patch of potatoes annually, I would have it. I hope that it will find a place in every farmer's library.

Willshire, Ohio. T. J. K.

☞ The Executive Committee of the Illinois State Agricultural Society announce a Trial of Implements for Farm Culture, to take place near Decatur in that State, commencing Monday, September 21st, 1863. This Trial will include the following implements:

1. Two-horse Plows for general purposes.
2. Two-horse Plows for sod or turf.
3. Gang-Plows.
4. One-horse Corn-Plows.
5. One horse Single Shovel Plows.
6. One-horse Double and Treble Shovel Plows.
7. Trench Plows.
8. Subsoil Plows.
9. Newly invented implements by which the soil can be well broken up and thoroughly prepared for seeding, at less cost than by ordinary plowing.
10. Ditching Machines for making open drains.
11. One-horse Cultivators.
12. Two-horse Independent Cultivators.
13. Two horse Cultivators with combination for seeding and planting.
14. Two-horse Harrows.
15. Field Rollers.
16. Grain-Drills.
17. Broadcast Grain-Sowers.
18. Machines for Cutting and Shocking Corn.

The Society's circular remarks:—"The city of Decatur situated at the crossing of the Great Western and Main Trunk of the Illinois Central Railroads, is almost in the geographical centre of this State; surrounded by an agricultural region of unsurpassed excellence; and a glance at the map will satisfy those abroad, unacquainted with the locality, that it is as readily accessible, by railway, as any point in the entire Northwest. The Premiums awarded at this test will be the Society's best Gold and Silver Medals. A detailed list will be published at an early day. Ex-President Webster of the Board of Counsellors is Superintendent of the Trial. Competent committees will be appointed, and all proper arrangements made under the immediate supervision of the whole Board. The Fair of the Society for 1863 is located at Decatur, and will be held the week following this Trial, in close proximity to the fields selected for the Test of Implements."

☞ Mr. C. M. Saxton, 25 Park Row, New-York, has compiled and published a "Complete Manual on the Culture of Tobacco," 82 pages, paper covers, price 25 cents. It includes the illustrations and much of the remarks on this subject, contained in Hon. Geo. Geddes' late Survey of the Agriculture of Onondaga County—also an original article prepared for the purpose by Mr. H. Beardslee, an experienced Tobacco Grower in Connecticut.

☞ Col. F. M. Rotch, Morris, Otsego Co., has sold the Short-Horn bull calf "Duke of Otsego," by Lord Oxford (the bull sold in England last year by Mr. Thorne, to his Grace the Duke of Devonshire,) out of Grand Duchess, and now about nine months old, to S. F. Carmalt, Esq., Friendsville, Pa. Mr. Carmalt is doing much for the improvement of stock in that part of Pennsylvania.

Flint's Milch Cows and Dairy Farming.—The book I sent for (Milch Cows and Dairy Farming,) has been received, and I have been very much disappointed in the work—it is so much more practical, and altogether better than I expected. Taking that work as a guide, it seems to me that a mere novice might succeed in making good cheese or butter. It ought to be in the hands of every dairyman. J. C. A. *Clarksville, Iowa.*

Sorrel and Sandy Land.—A writer in the *Rural New-Yorker*, a few years since purchased a sandy farm, run down by long cropping without manuring, and covered with "a splendid coat of sorrel." He plowed under the sorrel before its seed ripened, worked it with a cultivator occasionally during the summer, and then sowed it to wheat. The next March he sowed on twelve pounds of clover seed per acre. The wheat averaged twenty bushels per acre, and the clover "caught beautifully." This was a cheap method of renovating his soil.

☞ Bell's Messenger, London, publishes a list of the winning Short-Horns in the first class of bulls and cows respectively, at all the Shows of the Royal Agricultural Society, from 1839 to 1862 inclusive, and states, as the result, that during these twenty-four years "fourteen first prizes in the first class for bulls and for cows, were taken by animals of pure Booth Blood—13 cows and 1 bull. Four of the winners were bred by Mr. John Booth; nine by Mr. Richard Booth, and one by Mr. Bannerman. The Bates and the Towneley animals came next in honors. Six of the former, in the hands respectively of Mr. Bates, Capt. Gunter, and Lord Feversham, and an equal number of the latter (though one of these was the pure Booth blood cow Beauty,) have carried off first prizes."

Profitable Onion Crop.—Mr. Ordway of Essex Co., Mass., received last season a premium from the County Agricultural Society for the best crop of onions, over 460 bushels (50 pounds to the bushel) on half an acre of land. The year before the crop was corn, which also took a premium. This received 2½ cords of barnyard manure, plowed in 5 inches deep; last spring 100 bushels of leached ashes was spread on and cultivated and harrowed in, after which the ground was raked and sown May 7th, weeded out three times, cost of crop, $60; onions sold at 50 cents a bushel; profit, $170.

☞ Mr. Sylvester Lehman of Sharon, Schoharie Co., has lately purchased of Hon. T. C. Peters, Darien, Genesee Co., one of the young Short-Horn bulls recently advertised in this paper.

Disease among Foreign Cattle.—Typhus is said to be raging to rather a serious extent among the herds of Bohemia and Hungary, and the disease is stated to be of so contagious a type that even sheep are affected by it. Considerable interest has been excited among graziers and breeders in Great Britain by the announcement that the disease has been communicated contagiously to sheep, and further and more exact information is awaited on the subject with curiosity.

Ohio Pomological Society.—The annual meeting of this association was held at Columbus, Feb. 11 and 12, when the following officers were elected:

President—Dr. J. A. Warder, Cincinnati.
Vice President—J. Austin Scott, Toledo.
Secretary and Treasurer—M. B. Bateham, Columbus.
Dr. E. Taylor, Cleveland, S. B. Marshall, Massillon, G. W. Campbell, Delaware, J. R. Miller, Springfield, Committee ad interim, along with the officers.

Barley—I send you a statement of a large number of straws from one kernel of barley—the kind of barley that shells out of the chaff like wheat, I do not know the name of it. I planted fourteen kernels, and thirteen came up and grew finely. The least number of straws from one was six; the largest number of straws from one was forty-three, with heads from eighteen to ninety kernels on each straw. If this can be beaten, I should like to know how. I planted about ten inches apart, in a well manured bed, in which I had stuck some currant cuttings.

Fairhaven, Vt. J. J. CROUCH.

The Illustrated Annual Register of Rural Affairs for 1863.—This volume has been published by Luther Tucker & Son, Albany, and is for sale by A. Williams, of this city. It is a very valuable Annual, worth to any farmer or horticulturist many times its cost, which is but twenty-five cents. It is full of useful matter.—*Boston Recorder.*

☞ "The Association of Breeders of Thorough-bred Neat Stock," held its fifth annual meeting at Hartford, Ct., March 4th. The Short-Horn Herd Book, announced as in course of preparation under the auspices of the Society, was laid before the meeting, comprising pedigrees of 71 bulls and 221 cows. The Devon, Ayrshire and Jersey lists were announced as either in the printer's hands or nearly ready. The committee on Ayrshires reported that about 300 pedigrees had been examined and approved. The committee on Devons reported 450 pedigrees received from 55 breeders scattered throughout the New-England States. No report was made on Jerseys. The financial statement showed a debt of about $300 owing by the Association; and on the proposition of Mr. Peters, the President, a subscription, in sums of from $5 to $25, was made up, and the whole debt cancelled. Discussions were held in which the merits of the different breeds were enlarged upon at length by their respective advocates. The following resolutions were proposed and unanimously adopted:

Resolved, That the use of grade bulls for breeding is a great hindrance to the improvement in neat stock, and such practice should be discarded, not only as unwise but injurious to the farmer.

Resolved, That while we would not exclude any from the benefits of agricultural societies, the past course of many in offering premiums on grade bulls, is a retrograde movement, and should be abandoned.

☞ The curing of Hams and Bacon constitutes a large interest in the English county of Cumberland, but one which has suffered considerably from the competition of American packers. A recent article in a local Journal published at Carlisle, the county seat, reviews the subject at some length, and says that much improvement has been effected in the provisions put down here to send abroad. "The recent importations are not only very large, but of superior quality, and much better adapted both by condition and cut for the English market than the produce formerly imported from that country." The hams of Cumberland are noted for their superior quality; but the American ones are said to be "an excellent imitation of Cumberland, and would certainly require the *taste* of an experienced person to detect that they have been cured 3000 miles west of the county." The importations into Great Britain from the United States and Canada during the eight months preceding Feb. 1st, are computed to be, in Hams, equal to the produce of 172,183 pigs, and, in Bacon, to the produce of 365,612 pigs, or as great a quantity as the large county of Cumberland will probably be able to produce for ten years to come in hams and twice this period in bacon. And as a large quantity of shoulders, &c., are imported under the general head of provisions, the above figures really represent very inadequately the proportions which have been attained by the American trade in cured meats.

☞ Mr. William Hurst, of the "Log Tavern Farm," near Albany, has lately sold to Messrs. Bates Brothers of Schuyler's Lake, Otsego Co., N. Y., his Short-Horn bull "Monitor," by imported Neptune, and out of imported Finella—also the roan Short-Horn cow "Agnes," by Lamartine. Messrs. Bates Brothers were the persons, referred to in our last number, as having fattened and sold some fine beeves to Messrs. Charles & Van Meter, exhibited by them at the Center Market, Albany, on Washington's Birth-day.

Mr. Hurst has also sold to Mr. George Cary, near Albany, a two-year old Short-Horn heifer out of Agnes, and got by imported Neptune—also a short time since, to Col. Wm. H. Slingerland of New-Scotland, Albany Co., the yearling Short-Horn bull "Napier," got by imported Neptune, (11847,) and out of imported Finella by imported Grand Duke (10284.) Such blood should improve the herds of these gentlemen.

☞ We learn that Steuben is the first County in the State to send in to Col. Johnson, Secretary N. Y. State Ag. Society, its complete Agricultural Statistics for last year, as required under the law of 1862. These statistics have been gathered under the superintendence of Hon. G. Denniston, President of the Steuben County Agricultural Society, and his report in sending them, in is a very satisfactory one.

☞ Sugar or molasses is recommended as an ingredient in mixtures for steeping wheat, barley, oats or clover seed before sowing. Mr. Ronald, a merchant at Glasgow, arguing from the fact that during germination the starch of the seed is converted into sugar, as exemplified in the malting of barley, and supposing that saccharine matter coating the seed might yield important nourishment to the young rootlets when the resources of the parent seed were exhausted, tried the experiment repeatedly during the years 1857–59, and states that the average result was "an increase of something like 30 per cent. in wheat over the yield from seed sown in the ordinary way." The experiment is perhaps worthy of a trial.

Farm Implements.—A subscriber in Canada East, writes under date of Lennoxville, March 2: "We are very much in want of some farm implements that cannot be purchased here, such as turnip-drills, horse-hoes, &c., &c., and it would be for the advantage of those having such for sale to inform us of the kind, prices, &c." [We frequently have inquiries of this kind sent us, and we cannot but think that manufacturers and dealers would find it to their interest to advertise their wares more liberally.]

Water-Rams.—I noticed some months since, an inquiry from some one of your correspondents, as to the construction and working of Rams. I have one of Douglass', which I had put in five years since, and it has been constantly at work ever since. I could give some information if desired. s. p. a. *Boston, Mass.* [Shall be glad to receive it.]

☞ At the Annual Meeting of the Albany Co. Ag. Society, held at the village of Clarksville, Feb. 25th, the following officers were chosen for 1863:—

President—Jurian Winne.
1st Vice President—James W. Jolly.
Secretary—S. C. Bradt.
Treasurer—Wm. H. Slingerland.
Directors—O. H. Osborn, Henry Crebel, David Callanan, Alex. E. Willis, Geo. B. Hoyt, Jacob Simmons.
Vice Presidents—Luther Tucker, L. Dederick, M. Hallenbeck, and Geo. Young, Albany; Ira Boyington, James A. Reamer, Bern; John McHarg, Jacob Vedder, Bethlehem; Wm. Tuttle, Fletcher Blaisdell, Coeymans; Peter Shaver, M. J. Blessing, Guilderland; S. Mercelus, Jno. Hungerford, Knox; Geo. W. Bender, Henry Callanan, New-Scotland; James E. Mackey, Silas Sayre, Rensselaerville; Jacob Messenger, C. H. Witbeck, Watervleit; G. A. Miller, Levi Holmes, Westerlo.

There will be a meeting of the Board of Managers and Vice Presidents, at Houck's Hotel, on Tuesday, June 2d, at 12 o'clock, M. S. C. Bradt, *Secretary.*

Parsnips for Stock.—There can be little question that parsnips are of equal value to carrots for milch cows or swine, and they have some advantages over the latter in the matter of keeping through the winter. They are especially calculated for spring feed—coming out of the ground in the finest order just when most needed for our animals.

Inquiries and Answers.

USE OF APPLES.—Can you give me any information how apple whiskey is made, the profit, &c. B. D. [We would not recommend the manufacture of apples into whiskey—establishments for this purpose are apt to injure the character, as well as the reputation of neighborhoods, in proof of which many instances might be cited. We think a more profitable way of using apples is feeding them to all kinds of domestic animals. Provide a large, dry cellar for them, where the temperature will be a little above freezing during the winter, and they will keep well. Horses are very fond of them; they are excellent for cows, also for sheep and swine, and are about as valuable as carrots and other roots.]

SAW-DUST AND CHIPS FOR MANURE.—How can I rot or compost hard maple sawdust and turning chips to make them into manure? I can have 400 cords per year for the hauling of them 100 rods. Can I make it an object? D. A. M. *Uniondale, Pa.* [Under ordinary circumstances these chips would last several years, and would be useful in loosening clay soils, but useless and perhaps detrimental on sandy or gravelly ones. If they could be spread or placed in a heap on the ground, where they might be repeatedly moistened in contact with air, their decay would be hastened and in a year or two would be useful for spreading over manure yards, or for forming part of compost heaps.]

BOOKS ON DOMESTIC ANIMALS.—Will you let me know which, in your opinion, is the best treatise on horses, cattle, hogs and sheep? I have Dadd's Horse Doctor, but it is so incomplete that it is hardly of any amount. I regret my money. I have some others, but too succinct on the matter. For example, I wish to hear of a sure remedy for blood-spavin, one tried and proved to be good and effective. B. J. *Dane Co., Wis.* [Our correspondent will not be able to find any book that will furnish certain remedies for the different diseases. Medicines sometimes accomplish much, more frequently very little or nothing. Good care in regular feeding, wholesome food, drink, cleanliness, regularity and careful use to prevent diseases; and careful nursing, rest and attention to the comfort of the animal, are worth more than all the doctors. Youatt's Treatise on the Horse is much more complete and minute than Dadd's; but much allowance must be made for the cut and slash, kill or cure management, which it recommends. For diseases of cattle see Dadd's two treatises and Youatt. For sheep, Youatt and Morrell. For swine, Youatt and Martin, (published by Saxton,) and Richardson on the Hog.]

AN OLD FIELD.—I have what is here termed an "old field," or in other words a worn out one, containing about 15 acres, soil light sandy loam—"pine land." Before it came into my possession it was repeatedly cropped with little or no dressing—first corn then rye, then rest for a year or two with no seed. I find upon examination that it was plowed five to six inches in depth, so that not a great deal is worn out. I have this month plowed a part of it eight to nine inches, and propose to dress it with bone and sow to barley, then, as soon as the barley is off, put on rye and grass seed; when well rooted, turn on sheep, not cut the rye at all. Is that well, or is some other plan better? How early may I sow barley? G. W. H. [The mode of treatment proposed would probably answer well. The manure from the feeding sheep would enrich the land, although they might injure the young crop of grass. We should prefer to enrich this land by plowing in green crops of clover; if the barley is sown rather thinly and very early in spring, (as barley always should be,) the clover seed may be sown as soon as the barley is harrowed in, and covered by rolling. It will probably afford an abundant crop of clover by another year. Gypsum will probably produce a good effect on this land. The bone dust may be very valuable, but its effects are uncertain; the only way to ascertain is to try the experiment.]

GRUBS.—I have a lot containing about two acres, soil dark loam, rather moist—1861 it was in grass, and badly eaten by worms—white grubs with red heads. In the fall plowed—in the spring cross plowed and sowed to barley and oats. Crop badly eaten, and about July 1st turned it under and planted beans, and they were so badly eaten as not to yield half a crop. What shall I do next? What crop will they not destroy? Will either carrots, mangolds or peas withstand their ravages. G. W. H. [We ask our correspondents, who may have been successful with remedies for this case, for their experience. We have generally found good harrowing to be a remedy for most insects of the kind—how would thorough summer fallowing, accompanied with repeated plowings and harrowings, to be followed by manuring and crops, answer the purpose?]

CULTIVATORS.—What one implement is best adapted to working by horse power, among corn, potatoes, and root crops? Price, where for sale? G. W. H. [We have found Alden's Thill cultivator the best while the crops are small. This implement and another cultivator for taller growth are both manufactured by Remington & Markham, Ilion, N. Y. The price is not far from ten dollars.]

MANURES.—Last autumn I spread about one hundred and fifty loads of stable manure upon my meadow. Would it be well to go over it with a brush harrow this winter when frost is out, or should I leave it and the grass undisturbed to protect the roots until spring? G. W. H. [Brushing the manure so as to pulverize it finely and spread it evenly over the whole surface, is a decided advantage. One reason why top-dressing has not succeeded well with some, is in consequence of the practice of leaving it in lumps. The sooner the brushing is done the better, in order that the rains may carry the liquid parts into the soil.]

WORMS IN PIGS.—I have some pigs troubled with worms. What shall I do for them? Cannot make them grow much as they are. G. W. H. [We have had no experience under this head. Salt is frequently given, it is said with success, and turpentine by others. Although a severe medicine, it is said not to injure swine.]

DRAINING.—I have a farm of over 100 acres, composed of every variety of soil that is in Essex county, from the granite at the top of my pasture land, to the clay used for manufacturing brick and tile, and salt water mud and marshes. Forty acres in orchards and mowing, the balance pasture and marsh, thus requiring every variety of cultivation. As regards these stiff clays, will they pay to drain? They raise rank hay if well manured, but are cold, and hard to work, and timothy grass is very sour. We have no experiment that I am aware of in this vicinity. B. D. *Salem, Mass.* [The variety of soil possessed by our correspondent gives him important advantages. The light soil may be dressed with the clay, the muck used for compost, &c. The clay would, no doubt, be more improved by draining, and where now compact and impervious would soon become traversed by fine fissures from draining, and in a few years be porous and friable.]

DISEASES OF SHEEP.—We have lately lost two sheep in the following peculiar manner: The sheep suddenly shows a disposition to thrust its head violently out of sight, as into some dark corner, or into the rack—the eye becomes wild or glaring—within twenty-four hours the sheep begins to stagger and dies in spasms. Can it be what is called the "staggers?" An answer from you or your readers, as to the disease and the cure, would greatly oblige J. S. D.

THRASHING MACHINE.—Please advise me which is the best thrashing machine for a farmer to keep in his barn —price, size, &c., one or two horses, &c., and any information you can give me will be thankfully received. J. R. C. *La Crosse, Wis.* [The most convenient thrashing machine is one driven by the endless chain-power—a two-horse power is most efficient. The cost of a good two-horse power is about $120.—the same with thrasher and separator, about $170—and with thrasher and cleaning apparatus complete, about $250. One-horse power about one-fourth less, or three-fourths the cost of the two-horse power. Excellent machines of this kind, are made by several manufacturers in this State.]

PLASTER.—I have a piece of meadow that I think would be benefited by an application of plaster. How is it to be applied, and how much to the acre? H. S., JR. *Dayton, Ohio.* [Sow it with the hand from a wagon or cart, sowing the plaster at the rate of one to two bushels per acre—two bushels are ample. Windy weather should be avoided, and it should be sown rather early in spring.]

HAY-SWEEP.—The ANNUAL REGISTER, for a small work, I think cannot be beat. On page 180 of your last year's issue, is a description of a Hay-Sweep, which a friend of mine has become particularly interested in, and he feels confident that it will be of great service to him in future, and especially next season with the present prospect of help being scarce. I wish to ask if the article is patented, and if so, by whom? J. H. F. [The hay-sweep is not patented. It was invented and extensively used by Wm. R. Smith, formerly of Macedon, N. Y., now of Minneapolis.]

BEANS.—What is the Marrowfat bean? It is a bunch or pole? Will it grow with corn in the field? For the last three years I have failed in the Navy bean; my ground is too rich and they all run to vine. A few years ago I owned a farm that had a poor spot on it which grew them finely. C. J. S. *Lexington, Ky.* [The Marrowfat is a large variety of the white bean—when well grown, the seeds are about three-fourths of an inch long, and nearly cylindrical. When the soil is too rich for beans, or causing too free a growth of stem and leaves, select the smallest or most dwarf varieties of the white bean.]

OSIER FOR BANDS.—Can you or any of your correspondents inform me whether it is cheaper to raise osier for bands, than rye straw? If it is, how is the osier to be cultivated, and how soon after planting can it be used for bands? An article containing information about the osier would be acceptable. J. S. D. [The osier may be much more cheaply used for bands than rye straw. Two or three rods square will probably furnish as many bands for cornstalks, &c., as an acre of rye. The osier is raised from cuttings, which should be placed in good mellow soil and kept well cultivated for two or three years. Nearly every cutting will grow, and, in three years, a considerable supply will be afforded, and two years more will afford an abundance. It is important to procure the right species.]

BOOKS.—What is the best work on sheep husbandry? I have Youatt. Also, what is the best work on bees? I have Quinby. Sheep and bees are my delight—my specialty in farming. JOS. FORD. [Langstroth is the best book on Bees. A good work on sheep husbandry is very much needed—one which shall treat of the breeds as they exist in this country, their adaptation to different localities, their breeding and general management, whether mainly for wool or mutton, &c.]

FLAX MACHINE.—I have heard of a machine to brush and clean flax—one so simple that whoever sees it will only wonder that he was not the inventor of it himself. It breaks and cleans the flax without breaking the fiber. Can you or any of your correspondents give any light on the subject?

Montgomery Co., Feb. 17. SUBSCRIBER.

CHICORY.—Can you or some of your correspondents, inform me where I can obtain chicory seed. It is not advertised by any of the seedsmen of Philadelphia, nor have I seen any notice of it in your advertising columns. T. J. E. [Thorburn & Co., seedsmen, New-York, usually import it, and we presume will have it for sale in season for planting.]

TOBACCO.—There is quite a feeling in this vicinity about raising tobacco, and we want the kind that would be best adapted for this cold clime. We raise corn here with but little trouble. Please give us a little light on this subject, and where we can find the seed. E. H. *Franklin Co., N. Y.* [Will some of our tobacco-growers give us their views as to to the best variety for extreme Northern New-York.]

BARNS, &c.—J. P. C., who says he is a new subscriber, asks us a number of questions, to all of which we shall endeavor to reply as opportunity offers. In the meantime we would advise him to purchase the three vols of "RURAL AFFAIRS,"—price $3—in which he will find plans and descriptions of barns and stables of all sizes, together with more information adapted to the improvement of his twenty acres than in any other work published.

☞ I have an ox that cannot drink cold water, as it seems to put him in great pain; and on examination I find his front teeth are most of them loose. A neighbor has a yoke affected the same way. If you or some of your numerous subscribers, could tell the cause and prescribe a remedy, you would much oblige A SUBSCRIBER. *Granby, C. E.*

STRAWBERRIES.—Please inform me through THE CULTIVATOR, where I can get a few plants of the "Triomphe de Gand" strawberry? Also where I can get some cuttings of the "White Willow?" J. D. M. *Park Co., Ind.* [The Strawberry can be had of any of the nurserymen who advertise in this paper, and the willow of F. K. Phenix, Bloomington, Ill.]

GROUT.—Will Grout (Concrete) make a suitable foundation for a hill-side barn? Will you or some of your readers who have tried it, please answer in THE CULTIVATOR? E. S. [Water lime cement may be used for building a cellar wall in all places where it will not be subjected to the crumbling influence of frost combined with moisture.]

ASHES.—The high price of ashes, with so many purchasers, renders it almost impossible to obtain them. Can potash be used any other way, besides to sprinkle on to manure in solution, when ashes are not to be had? E. W. STEVENS. [Ashes are probably the cheapest form in which potash can be furnished; the latter will of course answer the purpose, and our correspondent may determine the relative cheapness of each, by remembering that good wood ashes, (although greatly varying in its amount of alkali,) usually contains 10 per cent. or more of potash, and sometimes half as much soda.]

MOWING MACHINES.—I wish to call your attention to a mowing machine known by the name of Hopkins' Reversible, with full particulars as to its merits and cost? E. W. S. [We are not acquainted with the comparative value of the mowing machine mentioned. There are now so many excellent machines, that no one person can speak with confidence of the relative merits of all.]

PLASTER.—What time should plaster be sown on meadows and pastures in Tioga county, and how much per acre when sown every year? L. P. L. [Plaster should be sown early in the spring, at the rate of a bushel or a bushel and a half per acre.]

HAZEN'S BEE HIVE.—Seeing an allusion to what is called a Farmer's bee hive, in a late number of Co. GENT., and which I suppose to refer to the hive of Mr. Hazen, I wish to ask him this question, premising that I have not had much experience with bees. Supposing the bees *not* to swarm, but that the workers go forward with making honey, as he represented some months ago, if I do not forget, are the worker bees *saved the succeeding winter*, to engage in honey making the *next* season, as effectually or substantially the same, so far as said workers are concerned, as if they were allowed to swarm in the usual manner? Or, in other words, do the workers continue to increase under his system management, as fast as by usual swarming? Or, if not, how fast or about in what proportion to their increase at the usual rate of two swarms for common hive? As the season of increase is rapidly approaching, a full answer will oblige one farmer, and perhaps several who desire to keep bees profitably. C.

METEOROLOGY.—Do you think that meteorology will ever be raised to a science, so that the philosopher will ever be able to foretell the weather for years to come, such as rains, snows, hail storms, thunder storms, early and late frost, dry weather and wet weather, and master the laws that direct the storm? And is it true that the changes of winds and skies "are produced by causes of whose rules no thinking mind will doubt the fixity." L. P. L. *Tioga, Co.* [Possibly we may discover in future some general rules that will assist us in determining the character of the future seasons, although as yet, in the midst of a vast amount of investigation that has resulted in great progress elsewhere, very little has been determined on this point. We do not believe we shall ever know anything of the weather in the long distant future, with the minuteness our correspondent points out. Physiologists will probably as soon discover from the examination of a child, how long it will live, on what days it will have headache, toothache, rheumatism, &c.]

CORN FOR FODDER.—I wish to sow or plant some corn for fodder the coming season. ill some one tell me what kind of seed to use? Will the common western dent corn answer, or must I get the Horse tooth variety; if so, where can it be procured? The dent I can get here. F. R. B. *Shipton, C. E.* [The smaller varieties of corn if sown thickly enough, make the best and finest fodder; and although the crop appears smaller and less showy, it is but little less in quantity. The larger sorts producing a coarse stalk require fine cutting by horse power to induce cattle to eat them. The dent corn is quite large enough, and should be sown quite thickly to prevent coarseness of stalk.]

LOCUSTS.—Is this year locust year? If it is, what is to be done with young trees? J. T. C. *Harford Co, Md.* [There are different broods of the 17 year locust, which appear in different years in various parts of the country. There are two that appear in Maryland, the first in 1868, the second in 1872. There is another, extending from western Pennsylvania through the valley of the Ohio river, and down that of the Mississippi, which appears the present year. This probably also extends into Harford Co., Maryland, and is the one referred to by our correspondent. We do not know any means of preventing its injuries to the trees.]

HEN-HOUSE.—I would like to inquire through THE CULTIVATOR, for the cheapest and best way to build a hen house. I have visited several of my neighbors, but I do not quite like their plans. I should like a plan of one large enough to accommodate about fifty hens. JOHN M. PADDOCK. *Meriden, Conn.* [The plan of a good poultry house which will accommodate from 20 to 100 hens is given on page 220 of vol 2 of Rural Affairs. Another plan will be found on page 34 of the same volume. A third on page 74 of vol. 3d]

BRAKE FOR SLED.—Do you know of any suitable brake for a sled? My horses feel worse at keeping back the sled than any thing else I do with them. Please answer through THE CULTIVATOR. T. W. *Illinois.* [We have seen teamsters employ a log chain hooked around the forward end of one of the runners, that answered a good purpose. We have also seen a stout hooked pole or stick, so placed between the cross-beams as to plow into the snow, answering the same end.]

GRAFTING GRAPES.—What is the proper method of grafting grapes, and the proper time to cut the scions—also if shell-bark hickory can be grafted in the bitter nut and do well? H. G. WISE. [The grape is grafted by removing the soil and inserting the scion just below the surface. The grafts should be cut and preserved in a cool place, and inserted after the leaves have begun to expand. For grafting on a large scale, as by nurserymen, see a figure and description on page 213 of the ILLUSTRATED ANNUAL REGISTER for 1862. We know of no experiments in grafting the shell-bark on the bitter nut—they are different species of the same genus, and possibly the operation may succeed; but more probably it will be very difficult or impossible]

THE HORSE.—If you will tell me in the next number of the THE CULTIVATOR, how I can restore to the original color a spot of white hair that has grown on the back of a bay colt, just back of the withers, occasioned, as I think, by a bruise got in rolling, and also how to promote the growth of hair on his tail, which I am told is worn off by the animal's disposition to rub that part of himself on account of the lampas, you will very much oblige A SUBSCRIBER. P. S.—The gums have been lanced, although the swelling has not much subsided. His tail has been kept clean.

PEACH TREES.—When is the right time to cut off the tops of peach trees that were budded last fall. Also would it be a good place to raise peach trees under a hill that lies to the west or southwest—would the buds be likely to be injured? J. T. C. [Cut them off very early in spring 2 or 3 inches above the bud, and after the new shoot has grown a foot or so, cut off the stump thus left close to the place where the bud was inserted. Peach trees sheltered by an eastern hill from the morning sun are less liable to be killed by frost than where they have a full morning exposure.]

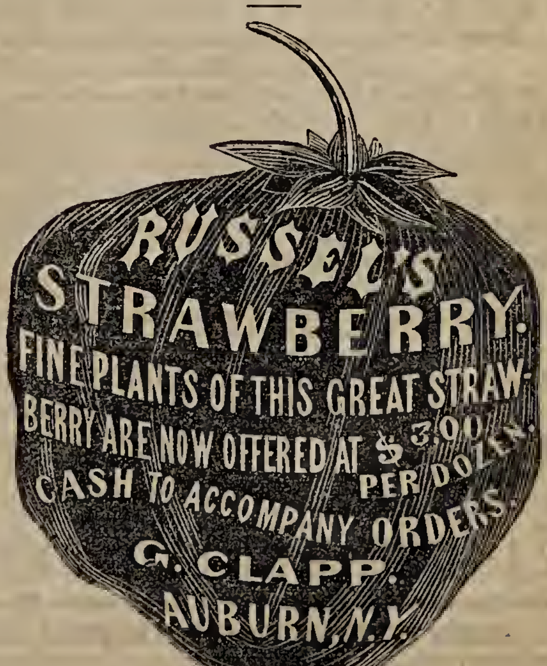
OSAGE ORANGE vs. WILLOW FOR FENCES. — I wish to have a *serviceable* fence of either of the above, just as soon as possible, and will thank you to tell me which of them will best answer my purpose. H. D. N. *Jackson Co., Iowa.* [The Osage Orange will be best and most perfect where there is a deep, dry subsoil, or an underdrain nearly under the line of the hedge, but where the soil has much moisture the willow will succeed the best.]

VINEGAR PLANT.—Will some one inform me where I can obtain the vinegar plant I have seen so much said about in THE CULTIVATOR, 1856. I have some 50 barrels old cider, which I am anxious to turn as quick as possible, and from what I read, thought it might be done more quickly by the aid of this plant if it could be procured. B. DRINKWATER.
Salem, Mass.

TANBARK.—Is there any or much virtue in rotten tanbark, and would it be good for a nursery of apple trees? J. T. C. [Thoroughly decayed tanbark is similar in its character to vegetable mold, and will do for mulching or mixing in compost with manure]

SORGHUM.—How much of this seed will be needed to sow an acre of ground? L. P. *Posey Co., Ind.* [M. Conard, in his article on the culture of Sorghum, p. 189, says four quarts per acre.]

PLANTS SENT BY MAIL PREPAID.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M. rch 26—w&mtf.

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There is also on the place a good water-power. It is now occupied by the owner. The farm is well watered, and has an abundance of wood for family use. WILLIAM VERNON.

P. S.—Enquire of C. SCHUYLER, Esq , No. 51 State-street, Albany N. Y. Letters may be addressed to WILLIAM VERNON, Mechanicville, Saratoga Co., N. Y. Terms of payment made easy.
Feb. 19—w2tm1t.

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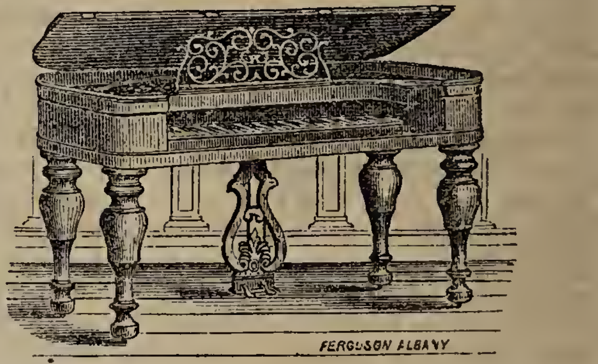

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Attention is called to the following letter from a farmer:

Farmington, N. H., October 9, 1862.

James R. Dey, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight house; opened it; came to me with eyes wide open, and said: "You have got cheated; this stuff is nothing but dirt." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then ommitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no preceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides dirt. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me $4.20. He informed me afterwards that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them $5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it wil not kill the seed.

And again, it is not so expensive. My method is to put it in the hill with the seed. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

Respectfully yours,
GEO. L. WHITEHOUSE.

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  4 Systematic Formation of Pyramids.
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  7. Shortening in the Peach.
  8. Construction of a Cheap Grapery.
  9. Gooseberries.
  10. Time for Pruning Orchards.
  11. Fruit versus Malaria.
  12. Dwarf Cherries.
  13. Strawberries—Quick Returns.
  14. Pruning the Quince.
  15. Select Lists of Apples.
  16. Labels for Fruit Trees.
  17. Select List of Grapes.

VII. INSECTS BY DR. ASA FITCH—Thirty-Four Engravings.
  1. Definitions of Terms, &c.
  2. Descriptions of Orders.
  3. Insects which Injure Fruit Trees.
  4. Insects which Injure Grain Crops.
  5. Insects Injurious to Gardens.

⁂ To show how full and valuable an article this is, it may be mentioned that Six Insects injurious to Fruit; Thirteen injurious to Grain, and Six injurious to Gardens, are described with complete and new Illustrations, engraved expressly for this article in the Annual Register. It forms, in point of fact, the readiest hand book of entomology for the practical use of the farmer and gardener, we have ever seen.

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  1. Double Zinnia.
  2. Japan Pinks.
  3. Bidens Atrosanguinea.
  4. Cuphea Limapani—The Striped French Marigold.
  5. Dwarf Nasturtium—New Sweet Williams.
  6. Dwarf Convolvulus—Oenothera Camarkiana—Splendid Gazania.
  7. Lychnis Haageana—Whittavia Grandiflora.
  8. Calleopsis Cardaminifolia—The Gaillardias.

⁂ This article was written for the Annual Register with Drawings and Engravings expressly prepared to accompany it, and not before published in this country, by James Vick, Esq., of Rochester.

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do. Portugal White,	15 do.	75
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Albany, Jan. 1—w&mtf. L. TUCKER & SON.

THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND [SERIES.

VOL. XI. ALBANY, N. Y., MAY, 1863. No. 5.

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J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS PER YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

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The Cultivator & Country Gentleman.

Home Investments---Under-Draining.

Among Farm processes to which it is just now particularly appropriate to call the attention of our readers, we must give a prominent place to UNDER-DRAINING. Many of them are placed in the possession of an unusually good balance at the bank, arising from the high prices commanded by their produce. What we wish to suggest is, whether it may not be the part of wisdom to invest any surplus of the kind *in the improvement of the farm itself*, rather than in outside ventures?

A prudent man in seeking an investment, looks to two objects, the certainty of an annual income from his money, and the ultimate safety of the amount invested. Now, on lands requiring Drainage, we should be blind to the testimony of all who have tested it fairly, to doubt that the return it yields will be an ample interest on its cost. And while there may be cases in which a whole farm, thoroughly drained, would not at once sell in market at a price enough higher to make up for the outlay, there are, on the other hand, innumerable instances in which fields otherwise valueless, have been rendered superior to any other part of a large area by judicious draining; and we must be permitted to doubt whether in any case, this operation well performed, and taken as the basis of a thorough and systematic course of Farm improvement, would not eventually, and in connection with the careful saving of the manures of the farm, add sufficiently to its value to render the principal of the investment required quite as secure, as the interest would be regular and certain. Let those who possess the back volumes of the COUNTRY GENTLEMAN and THE CULTIVATOR, "overhaul the same," as Capt. Cuttle would say, for the experience of our old friend and correspondent, JOHN JOHNSTON, and the many others who have written on the subject in these columns, in times past; and "when found, make a note" of the pecuniary results attained.

After visiting, last autumn, the farm owned and occupied by SAMUEL FAILE, Esq., at White Plains, Westchester Co., we promised to give at greater length, some notes of the improvements there carried out; and we proceed to refer to them at this time, in so far as they bear upon the subject at our head, as furnishing strong testimony in favor of the statements above given. "Ridge Farm," as it is called, was purchased just three years ago, (April 1, 1860,) when its condition is described as possessing features in common with too many of the "worn down" farms in the older parts of the State—much of the land classed as arable, (124 acres,) being over-run with moss and briars, and including, beside 43 acres of wood-land proper, a surface of 126 acres entirely unreclaimed, and a portion of it swamps. This is land, it should be borne in mind, the position of which alone is enough to place its valuation at a high figure—every acre of which must pay the tax levied on that valuation, and either sink or bring in, as the case might be, the interest upon the sum for which it would sell.

Mr. FAILE's first trial of Underdraining was a field o about 5 acres, a side-hill, which, notwithstanding its slope, was rendered so wet by springs as to be inaccessible to teams until a season too advanced to admit of its cultivation. It was thus occupied only by a coarse grass, and could scarcely be considered as contributing at all to the income of the farm. If what it yielded did not at least pay the taxes, this field was a source of absolute loss, as well as being an entirely unproductive investment. It was tile drained at a depth of three feet, and at intervals of thirty feet; plowed, subsoiled and seeded with Timothy alone, Clover being sown early in the spring of 1861. One winter's outflow from the tiles with which it was underlaid, rendered it as firm and dry as any land on the farm; the first hay crop yielded from it averaged considerably more than two tons to the acre. A ton of hay in Westchester county is somewhat more valuable than in the interior of the State; and allowing even one-half the crop to go for the immediate cost of seeding and harvesting, we should venture to say, without knowing exactly the cost of the improvement, that the other ton would pay the interest upon it, and contribute a fair dividend toward a sinking fund for the repayment of the principal.

The second piece of land undertaken was a swamp of about seven acres, composing about one-half field No. 19, and devoted previously to the production of bog-grass, briars, and stagnant pools. The whole 7 acres we were told, (and fully credited the statement,) would not have carried a single cow through the season. In the autumn of 1861, drains were laid converging from the eastern and a part of the southern side, toward the center, where a pond was walled in as a reservoir of the drainage water.

A part of the field toward the western line, had been plowed when we visited the place in the autumn of 1861, and we could judge from its appearance what a task must have been undergone in the plowing of the remainder, which was not done until the spring of 1862. Corn was planted, manured in the hill with poudrette simply, and the result last autumn was "a crop of 53 bushels of shelled corn per acre," we are now informed, "with the gratification of finding the roots and briars almost eradicated, and a rich bed of dark loam dry and loose, ready for cultivation." With corn quoted at from 80 cents to $1 per bushel, as it has been since this crop was harvested, we leave the reader to compute the interest yielded in this case by an investment in "underground crockery."

The third field which we examined last November, contained along its eastern side about nine acres, originally similar to the foregoing. Here the tile were laid at a depth of three and a half feet, and thirty feet apart, but the work was not completed until the middle of June—too late for a crop. It was plowed during the summer, harrowed, and in October again plowed to permit the fullest action of the winter's frost. No standing water was to be seen at the time of our visit, which was during a tolerably heavy shower, and the water was coming from all the tile in copious streams.

We thus found 21 acres converted from an almost or entirely worthless surface, and added, by the use of tile, to the arable area of the farm. By proper cultivation and the use of guano and bone-dust, much had been done meantime to renovate the surface above noted as arable at the time the farm was purchased. This we pass by as foreign to our present object; but, as a farther example of the thorough-going manner in which everything has been undertaken and carried out, it may be added that the old, crooked and tumble-down division fences have been removed, and replaced, up to the opening of this year, by *six miles and a quarter* of new and heavy stone wall, thus securing convenient fields, of good size and straight enclosures, and at the same time a thorough removal of the surface stone which before encumbered them. Moreover, much draining has been done beside the three examples here selected as especially worthy of notice.

Now, on how many farms is it the case that a few acres which have always been quite or nearly useless, if not an offensive eyesore, may be converted by a few lines of Drain, into the most fertile and serviceable fields! Of all kinds of Draining, that accomplished by means of tile deserves the preference; and at the risk of repeating what has often been said before, we shall recapitulate some of the grounds of this preference:

1. The only other mode which competes with Tile-draining in the first of all requisites, *durability*, is that done with stone. This requires much more labor both in the digging of a ditch wide enough to lay the stone properly, and in the putting in of the drain itself. Judge French asserts that where tile can be had at reasonable cost, the expense involved is *not more than one-half* that of stone drains.

2. Tile-draining, well performed, *is* the most durable, because there is less opportunity for vermin to find their way into them; they form a smooth channel for the water, with nothing that should retard its flow and occasion the collection of silt, and, in digging the ditch for them of just the proper width for the purpose, the surrounding soil below and on each side, is not disturbed and loosened up in such a way as to render it likely that the water that ought to run through them will force a passage for itself elsewhere, undermining and breaking the continuity of the drain.

3. Pipe-tile, which experience in Great Britain and in this country, has proved far preferable to the other forms once in general use, convey a very large amount of water in proportion to the space they occupy, while a small amount creates more of a current than it would possess upon a flat-bottomed channel of any sort,—rendering deposits less likely,—and the round ends of the tile can moreover be so adjusted as to secure a close fit, and leave room for very little obstruction and friction from intruding angles or joints.

This leads us to refer to one point in Mr. Faile's Draining practice which he considers of no little importance. The branch or lateral drains are frequently brought into the mains at an angle of nearly or quite ninety degrees, thus leaving room, in the abrupt change of course which the current must take, either for a sluggish outflow where the quantity of water is small, or for undue pressure against the opposite side of the main if the drains are running full. The main objection is that any abrupt angle, by diminishing the velocity of the stream actually lessens the capacity of the drain. This is obviated by changing the course of the branch drains a short distance above the main, so that the two streams shall be flowing as nearly as possible in the same direction where they unite. For some other facts in Mr. Faile's practice, the reader is referred to page 384 of the last vol. of the Co. Gent.

The only objection that can arise at the present time to the undertaking of Farm-drainage, is the high cost of labor in almost all parts of the country. For this reason we have not urged the drainage of *large surfaces*—our purpose having been to suggest attention mainly to those cases in which, by the cutting off of springs or of surface water from above, a comparatively limited amount of drainage will accomplish a great deal. There are such spots, we might almost say, on a large majority of farms,—the removal of which their owners may have often thought of, but never mustered the courage and enterprise to accomplish. Was there ever a better time to do it than the present, if the money is on hand for the purpose, and when the prospect of good returns for the increase of crop obtained is so encouraging?

TO MAKE POTATO STARCH.

Starch made from the common potato furnishes an excellent substitute for arrowroot, as a wholesome, nutritious food for infants. It also makes a good cheap pudding for the table, if cooked like sago; and as it has not the medical properties of arrowroot, it is much to be preferred as an article of daily food, except for children who are subject to diarrhœa or summer complaint. The process of making the starch is simple, and the time required so short as to put it into the power of every one having the means at hand. Wash any quantity of potatoes perfectly clean, and grate them into a tub half full of clean cold water; stir it up well; let it settle, and then pour off the foul water; put the grated potatoes into a fine wire or coarse hair sieve; plunge it into another tub-full of clean cold water, and wash the starch through the meshes of the sieve and throw the residue away; or wash it again if any starch remains in the pumice; let it settle again, and repeat this process until the water comes off clear; scrape from the top any remains of the pumice; then take the starch out, put it on dishes to dry in a warm room, and it will be fit for use immediately. When wanted for use, mix as much as may be needed in cold water, and stir it into boiling milk, or water if preferred, and it requires no further cooking. It also makes a stiff and beautiful starch for clearing thin muslins and laces.

Sudden Changes in Farm Cultivation

In conversation last week with an extensive and experienced Tobacco grower from the Connecticut Valley, he made the remark that he had never known farmers attempt its culture, who did not get something wrong in the harvesting or curing of the first crop,—these processes requiring much practice and care to perform them rightly. He added, however, that when there is a great demand for the article, poorly cured samples may go off at as good prices as good Tobacco in ordinary times.

Corroborating the views expressed by this cultivator, a letter has since reached us from another Tobacco grower in Massachusetts, who gives the following sensible words of caution:

"I see a good many inquiries for the mode of culture of Tobacco. I hope people will not go crazy because the article brings a high price now. It is quite a trade to learn to cultivate tobacco, and by the time beginners get buildings and poles in readiness, it will be down in price."

It is a peculiarity of American farming, we believe, that we are so spasmodically ready to undertake new enterprises of every sort. A few acres put under a crop of Tobacco may be worth the trial, now, for those who happen to have land adapted to the purpose; and it is possible, therefore, that this is an exception to the remark which it has occurred to us more than once to bring to the notice of our readers, as peculiarly applicable to the present times—namely, that, as a general rule, that farmer is most successful who studies the peculiarities of his own soil and situation until he decides upon a system of culture and a series of crops precisely adapted to them, and then follows that system steadfastly for a course of years. It is this which gives its fixed character and general success to the Agriculture of Great Britain. Minor changes are of course admitted from time to time. But, as a general rule, there is a certain amount of grain raised, according to a well defined rotation, and a certain amount of stock fed upon the roots and grass grown and the feed to be purchased, on every farm, from year to year; and if the prices of grain or of meat are now and then high or low, the system is not interfered with—the average returns of one season with another, being kept in view as an object of far greater importance than temporary gain, which may be uncertain, and is often followed by counterbalancing losses. In the condition of our markets for Agricultural produce, just now, there will doubtless be many who are tempted to undertake both Wool-growing and Dairying upon a scale of unusual magnitude. Every one is aware of the anxiety that has been shown to procure fine wooled sheep for many months past; and we see it stated that large additions are making to Dairy stock in many parts of this State—for example, that in the county of Chautauqua not less than one thousand cows have lately been received, chiefly from Pennsylvania. Now the close of the war, whenever that much-to-be-desired event shall occur, may catch many a farmer as well as a multitude of speculators in a tight place (as a sensible article in the New-York Argus last week has suggested)—owing to the diminished demand for wools when the cotton market is reopened and soldiers by hundreds of thousands are no longer to be clothed, and to the diminished exportation of dairy products when the premium on exchange goes down. And the letter from our Massachusetts correspondent, above quoted, goes on to say:

"I hope your readers will bear in mind that Grain of all kinds will be high for a year or more to come. Not long since I heard a gentleman of note remark, 'that wages were going to be so high he should not hire much, and consequently not plant much, and do as little farming as he could.' This did not meet my views, for if wages are high, farm produce will be correspondingly high, and farmers should pull every string and leave no stone unturned, but should try to raise all they possibly can; for there never will be a better time for them to get out of debt than while the war lasts."

To this end we have no doubt that Grain raising farmers, (as, indeed, we have always urged,) may profitably combine greater attention to stock with the main object of their farms; and that, with proper attention to their land and its productiveness, stock raising and dairy farmers may profitably increase the quantity of stock their farms have carried. But it certainly strikes us as quite imprudent to make sudden changes involving the whole system of management heretofore adopted, in the hope of avoiding the necessity of heavy payments for farm labor, or of profiting by the present but uncertain rates which particular products are bringing. The great staples of the farm, if the war continues—wheat and Indian corn and barley, as well as butter and cheese and wool—are certain to bring high prices; and when the war is over, unless Providence should favor the whole country with seasons of unexampled productiveness, the force of farm labor has been so greatly lessened, that we see no chance for the leading kinds of Grain to fall, as other products may, below a rate amply remunerative for their cost.

It has been already noted from time to time in the Country Gentleman, how vastly our exportations of Wheat have exceeded the calculations of some of our English friends, who, instead of consulting trustworthy sources of information, argued from prejudiced reports, or on the principle that "the wish is father to the thought," that America could send them no grain from and after the very outset of the war. Whether the war shall continue or not, we mean to keep up our supplies for export,—it is of vast importance to the financial condition of the country and the prosperity of every class of citizens that we should;—and, appreciating the importance of this end, not less than of the existence of abundance for our home consumption, we trust, in the language of our correspondent, that our farmers will prepare for a busy campaign during the coming spring and summer, and "leave no stone unturned to raise all they possibly can."

◆

WHY HENS DO NOT LAY.

Messrs. Editors—I am not in the habit of writing for publications, but as I have a few remarks to make from my experience, and think it will be of some use to your numerous readers, I will make that experience public. Last spring I had sixteen hens of the Dorking breed, and they did not lay. I did all in my power to make them lay, but nothing effected a cure. I gave a great variety of feed, burnt bones, shells, &c.; also tried many things recommended in your valuable paper to make hens lay, but all was of no use. I did not like to part with them, as they were favorite fowls of mine, and highly esteemed for the breed. Lastly I gave up in despair—thought there was no use of keeping hens to look at, and receive no profit. I then commenced to kill them, took the poorest first, and dressed one, and it was the fattest fowl I ever saw, and no signs of any eggs.

I then made up my mind they were too fat to lay, and then commenced immediately to starve them a little, which caused them to lose some of their flesh, and in due time they commenced to lay. Since then they have done well. Was it feeding too high that caused their not laying? Will some of your readers please give their opinion in your next paper.

Cape Vincent, April 1st, 1863. E. C. K.

The True Cause of the Potato Disease.*

BY PROF. S. W. JOHNSON.

Having given an account of the potato fungus, *Peronospora infestans*, and described the experiments and observations which have been adduced as evidences that it is the cause and not a result of the potato rot, we may now turn our attention to an important question that presents itself, viz: How is the existence of the fungus continued from year to year? This point appears to have been thoroughly investigated by Dr. De Barry. He describes at length the researches which conduct him to the following results: 1st. The spores or seeds of the fungus cannot survive the winter, either on the dry potato top or in the soil. 2d. The Peronospora infestans is not developed from the spores of any other form of fungus. It happens that some fungi are propagated by two or more distinct kinds of spores, some of which may be kept in the dry state indefinitely, without losing their vitality. It was hence necessary to examine most carefully the habits and development of all the fungi which usually occur on potatoes. The result of such study is that none of them have any generic connection with the potato fungus. This feeds upon the *sound* potato, the others feed upon the *decayed* potato. 3d. The Peronospora infestans winters in the tuber in the condition of *mycelium*,† and is carried into the field in seed potatoes. We have not space here to detail the evidence in favor of these conclusions, but must refer to De Bary's work. With regard to the last, however, it may be remarked that there are two methods by which the fungus that is contained in the seed potato may propagate after the latter is planted, and thus from a single infected tuber may devastate a whole field or neighborhood:

1st. As has been described in the previous article, the potato containing the mycelium (fungus without seed or spores) in its interior, if cut or bitten so that the cuticle is injured over the diseased part, shortly produces, under favorable conditions of moisture and warmth, spore bearing branches, which multiply and produce new fungi. In a stiff soil, at a considerable depth, and in case of uncut or unwounded tubers, this kind of propagation by spores does not take place.

2d. The mycelium which has lain dormant in the tuber during the winter, and has perhaps developed in it to so slight a degree as to escape ordinary observation entirely, grows in the planted tuber, follows the young shoots in their extension, and with them passes out of the soil. When the mycelium enters a young shoot in large quantity, the latter shortly becomes black and dead. Such shoots may often be observed when diseased tubers are allowed to sprout. On the contrary, if the mycelium is not abundant, the shoot preserves its beautiful appearance externally, and grows without any perceptible drawback, although on microscopic examination the mycelium may be found, as well as the discolored track of disorganized tissue through which it has made its way.

Considering the facts stated in our previous article, it is evident that proof being given that the mycelium may survive winter in the tubers, from them penetrates the shoots and thus get above the soil, it must be admitted as a consequence, that a few diseased seed potatoes may infect a whole field more or less widely, according as the conditions of increase and distribution are favorable or otherwise.

When a young shoot containing the fungus in large quantity has grown a few inches above the soil, it will as experiments demonstrate, shortly suffer discoloration and afterwards perish. These instances of potato disease in the early summer attract little or no attention, because they are not numerous, and because the diseased shoots are surrounded and hidden by healthy ones, which may have issued from the same tuber. If now, moist and warm weather ensues, from the surface of the shoot which is blackened by the ravages of the mycelium, there arises a forest of fertile fungi, which within 15 to 18 hours, developes an abundant crop of spores. From this insignificant beginning may spring the most destructive results, as will be plain when we consider the number of spores which are produced, the ease with which they are detached from the spore sacks, the fact that they retain their vitality for several weeks, and the extraordinary rapidity with which they reproduce new generations of fungi.

The rapidity with which the *Peronospora infestans* propagates from the mycelium contained in seed potatoes, is *at first* slow, and for a time proceeds, as has been remarked, without perceptibly injuring the vigor or luxuriance of the stems and foliage of the potato plant.

This statement is not a mere inference from what is known as to the potato disease, but is proved by actual experiment. De Bary infected healthy potato plants having vigorous foliage, with fungus spores, in a room where the uniform condition of the atmosphere was certainly far more favorable to fungus development than the free air usually is, and he found that where hundreds of germs had penetrated the potato stems, it required 29 days before the fungus had spread through 8 inches of stem in one case, and through 4 inches in another. In these instances fructification did not take place, and the potato plants grew well, branching and leafing out luxuriantly.

If the fungus is sown upon potato leaves they often remain to all appearance healthy for a long time, even when microscopic investigation demonstrates that the fungus has penetrated the tissues.

These facts explain why the disease does not at once ravage a field into which it has been introduced by the planting, but on the contrary remains comparatively dormant until the potato has attained its full development, and the time of year arrives when the external conditions are most suitable for a rapid and devastating growth of the fungus.

It is easy to imitate artificially what thus happens in Nature, and at any season to change the slow process of infection into the rapid one of destruction. De Bary made the following green-house experiment: In February three vigorous potato stocks grown in pots were placed in the immediate vicinity of some artificially infected shoots, on which *Peronospora* existed in a state of fructification. The plants were now frequently watered, the foliage being copiously besprinkled. In a short time the fungus established itself on the foliage of the previously healthy plants. They assumed precisely the appearance of field plants attacked by the disease in August. Leaf after leaf was affected, and in a few weeks the plants above ground were entirely destroyed, while nearly 100 shoots of the same kind of potato planted at the same time and placed under similar circumstances, save that they were shielded from contact with the fungus, kept perfectly healthy, and remained so for months afterward.

It is at present rare that perfectly sound potatoes are employed as seed. Actually rotten or badly infected tubers are of course not used, but according to De Bary it may easily happen that apparently sound potatoes actually contain the fungus. The fact is well known that tubers which have been slightly diseased never, so to speak, recover from the injury without decay, the diseased parts being separated from, though adhering to the sound, by a layer of cuticular matter. The small scabs or brownish spots seen on the surface of otherwise healthy tubers, are not unfrequently the lurking places of the dormant fungus, which only needs the moisture of the soil to develop abundantly.

De Bary gives the following summing up of the cause and course of the potato disease, viz: A parasitic fungus, *Peronospora infestans*, exists only by feeding upon the potato plant. Its mycelium penetrates the tubers in order to hibernate in them. Kept cool and dry, it vegetates but slowly or makes no growth; but in the warm season, or under favorable circumstances, it increases luxuriantly. Then the mycelium extends itself into the stems of the potato plant in order earlier or later to develop its spore-sacks, which, transferred to neighboring parts of the plants, yield spores that speedily penetrate the healthy tissue and produce the *leaf blight.* The parasite spreads from one or many such sources over the field, and from one field to another—the foliage of the potato becomes discolored, and the tops die down. Of the numberless spore sacks formed anew on the foliage, a large part lodge in the pores of the soil and there yield myriads of spores which penetrate the earth. Some of them reach the tubers, and within them develop again the mycelium, which serves to ensure the continuation of the life of the fungus as the tuber ensures that of the potato plant. When developed in large quantity it destroys the tuber, producing the rot. In smaller amount it causes slight, often imperceptible, patches of disease, through which it comes another year into the field, and renews its life, and perhaps its ravages.

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* Continued from page 61

† The sterile fungus which yields no spores.

To do full justice to this important subject, I must beg the indulgence of the readers of the Co. Gent. for one more article, in which I shall endeavor still further to justify what one of them, J. G. W. of Utica, designates "as an arrogant, not to say absurd, theory," and to show to those whose minds are not irrecoverably "made up," that every other theory of the cause of the potato disease is fatally afflicted with a "constitutional weakness."

Sheffield Scientific School of Yale College, March, 1863.

SHORT-HORNS AND HOME-BREDS.

Much is said among farmers at the present day, of pure bred foreign cattle and natives, or home-breds, such cattle as are common in the New England States. Few farmers are able to stock their farms with the best improved foreign breeds of any particular kind desired. Accordingly it becomes a question of no small interest to every such farmer, "How can I best improve my condition by cattle breeding?" According to the reports of the late discussion of cattle breeding, by the Legislative Agricultural Meeting in Boston, it was said by one speaker, that "the cattle of the commonwealth had been more improved by the introduction and use of well-bred Short-Horn bulls, than in all other ways." This is undoubtedly true, not only in Massachusetts but in all the eastern, middle and western States. Look at the stalled oxen from the Connecticut Valley, and it will be seen that most of them are grade Short-Horns, such as are produced by using well-bred, good stock-getting sires, with common cows, entirely without pedigree. The first cross generally makes fine stock for the dairy, for work and for the shambles. The writer almost from boyhood, having had his birth and education on a farm, noted the marked improvement made by crossing home-breds or natives, with thoroughbreds of the Short-Horn or Durham breed of cattle. In this way the dairy producing qualities of cows, the size, symmetry, docility and quality of working oxen, and the beef-producing qualities of all, have been largely enhanced, as every observer must have noted during the last quarter of a century.

What are called "natives," are all descended from importations from Europe and Great Britain, as none will deny who know that cattle are not indigenous to the United States. If our fathers did not uniformly import the best, why should their sons fail to do so, in case they have been so prospered as to be able? Does not the improvement in stock, as noted above, confirm both the wisdom and economy of the late importations of good stock? It so seems to the writer. Can any one hesitate to doubt, that he who decries this policy, utterly fails of comprehending the subject. It would seem not. Yet there are those even in New England who do it. So far as known to the writer, they are mere theorists, or unthrifty farmers, who set their faces against everything not found in the traditions of their immediate ancestors, or those of the neighborhood. Nothing, to such, can be good or useful or true, because their progenitors did not know it, and what they did not know, is hopeless innovation, and therefore "away with it."

The thriving, practical farmers of New England know their own business, and such are almost universally introducing the improved blood of foreign breeds into the veins of their common stock, called "natives," and in so doing, are well rewarded, as the returns from the credit side of their live stock accounts, abundantly demonstrate and confirm. What is now said of that farmer who breeds from a scrub bull, raised as a stock-getter, because when a calf, no butcher would buy the worthless "native." This is no fancy sketch, for even now there are advocates for a like policy, who would not introduce a thoroughbred Short-Horn, Ayrshire, Hereford, Alderney or Devonshire bull, because the "native" is better. For the opinions of such, there is little reverence in these days, for they seem to be like those who have outlived their day and generation. Improvement in stock-breeding is the result of crossing with "improved breeds."

COLUMELLA

Confinement of Sheep in Winter.

In answer to an inquiry in the March number of The Cultivator, from Forkston, Pa., I will state that I have been a keeper of sheep for the last fifteen years, and have always observed that sheep will do far better confined to their yards, from the time they are taken up in the fall until they are turned out in the spring; and I am further confident that sheep will do better on plenty of good straw, and the same amount of grain, given them kept up, with a good shelter to protect them from the storms, than to run out and have what the gentleman has alluded to. The sustenance that sheep will gain from pasture or meadows in the winter season, will not only reduce them as to flesh and strength, but will take away their appetite from other more durable nourishment, and further, the same sheep kept up and properly taken care of, will shear from one to two pounds more wool than if treated in the manner formerly mentioned. I am a breeder of the pure Atwood, Robinson and Cutting Spanish stock, and if the gentleman will pay me a visit I will show him the difference.

H. A.

Cayuga Co., N. Y.

CURE FOR HERNIA IN HORSES.

Messrs. Editors—Your correspondent C. G. P., asks for a cure for rupture. Perhaps my experience may be of some benefit to him. I had a horse that at birth had a small rupture, and at the age of four years the protuberance was larger than one's fist. Not finding any one willing to undertake a cure, I made the attempt myself. After cutting a liberal hole through the skin, I scraped the edge of the orifice with my knife, to make it sore. Then with a surgeon's needle and a thong of raw hide drew the belts together as near as possible, and then took a few stitches in the skin. In two weeks the cure was perfect. I used raw hide for the internal sowing, that it might be absorbed and carried off by the circulation. I have since been informed on good authority, that trepanning with silver is a certain cure. It is certainly more simple and I should think safer.

H. V. Welton.

Waterbury, Ct.

A Crazy Cow and her Sad Death.

I want the farmer-boys to remember this cow story, and never treat a poor dumb beast in so cruel a manner.

Neighbor C. had a sick cow; so they mixed up a lot of salt and vinegar, and I don't know what else, and poured it in her ear. Immediately she foamed and raged, and plunged over a rocky precipice, forty feet or more, and there her broken bones remain.

B. J. Campbell.

Glen Haven, N. Y.

CULTIVATING ORCHARDS.

It is more than twenty years since, that we performed a series of experiments, and made a number of observations in relation to cultivating young orchards. The evidence thus afforded was entirely convincing and satisfactory in favor of the practice. We had supposed this opinion to have been generally adopted by cultivators of late years, except it be in the few instances where the soil was already very rich, or in some of the regions of the South and West where hot summers and a fertile soil combined, might render cultivation unnecessary, especially with the standard pear.

We have, however, recently observed some articles in favor of orchards remaining in grass, and among the rest a communication in the last number of the Horticulturist, from a Berks county, (Pa.,) correspondent, strongly objecting to any kind of cultivation. He says that plowing orchards "is just as sure to cripple if not kill the trees, as a raking fire of cannon will destroy a body of infantry;" he remarks that if the soil is deep and rich, it will not need cultivating; but if it is shallow the roots will remain at the surface and will be certainly destroyed if the soil is interfered with; and he thinks it absurd to attempt to raise any crop, or "to plant anything where you plant a fruit tree." He therefore allows his orchard to remain in grass.

The editor of the Horticulturist very properly objects to this position of his correspondent. As we regard this subject one of great importance, and that success in most cases entirely depends on good culture, we give a number of instances in proof, having yet never met the first one bearing in an opposite direction.

Many years ago two near neighbors set out peach orchards; one procured very fine selected trees, which he placed in grass land. The other had a much inferior lot of trees, but he placed them in cultivated soil, which he kept planted for several years with potatoes and other low hoed crops; in five years he had an abundant crop of fine peaches on his thrifty trees, while on the grassy orchard of his neighbor, only three stunted trees remained.

Another neighbor procured fifty fine peach trees; one-half of the ground where they were set was planted with potatoes—the other was not cultivated. On the potato ground none had grown less than one foot and a half, and many two feet and a half; on the uncultivated portion none grew over three inches, and many not more than an inch. Some years ago we visited a large market peach orchard, the trees full grown; a few of the rows stood in well cultivated corn—the green luxuriant foliage on these could be readily distinguished from the yellow, sickly foliage of the others, at the distance of a mile.

A large number of measurements have since been made of the growth of peach trees on both cultivated and sod ground. On light soils, and in sod, the trees scarcely ever grew more than two or three inches a year; by good cultivation, two to three feet was the average growth. On strong rich soils the difference was less striking; we have to-day examined a number of peach trees, several years of age, standing on land of unusual fertility—where those in grass had made shoots about one foot in length; where cultivated, the shoots were about four feet long, and measured by bulk or weight, were fifty times as great as the other. Every one who has raised peaches, knows the great superiority of the fruit both in size and quality, when raised on thrifty trees—amounting in some cases to triple the price in market.

The effects of cultivation on apple trees are not quite so great, but still sufficiently apparent—the shoots being about five or six inches when grown in grass or neglected, to two or three feet in clean mellow soil. As the trees become old the difference diminishes; but we have never seen an orchard, young or old, that was not benefited by moderate plowing and cultivation. A neighbor has a few large trees, probably forty years of age, of the Rhode Island Greening, that stand in a garden kept constantly and deeply cultivated; and if there are any that are healthier, more productive, or bear better fruit, we have not seen them. Another neighbor has a part of his orchard cultivated with crops, and the other portion in grass, the superiority of the former conspicuously visible to every one who passes.

We reported last year the case of an orchard in Massachusetts containing four acres, that had been deeply plowed, and the roots had been so much torn that a cart-load of their fragments had been drawn off. Yet it would have been hard to find an orchard in more thrifty condition, or bearing heavier and better crops. A friend stated that he thought this orchard would decline in a year or two, but did not state for what reasons nor on what principles. Root pruning, by cutting off a larger amount of roots, does not kill trees—and the common removal of small trees from nurseries, where nine-tenths of all the roots are left behind, destroys but very few.

The correspondent of the Horticulturist whom we have quoted, says that "the best grape-grower will not even allow a strawberry stalk to grow under his vine—because some of the elements required to perfect the vine might be carried out of the soil by the strawberry." Yet he allows the whole surface of his orchard to remain in undisturbed turf, which, according to the examples we have just furnished, is incomparable worse than a cultivated or hoed strawberry patch.

We have before spoken to our readers on the importance of cultivating orchards—but while so many ten thousand trees perish yearly, and still more grow feebly and bear poor fruit on account of neglect, the subject needs line upon line, and precept upon precept, and we cannot willingly allow a fair opportunity to pass without endeavoring to place the subject in its true light. We would not highly manure trees nor cultivate them needlessly on the rich soils of the South and West—nor mutilate the roots of orchards where it could be avoided. We find however that when owners give the different kinds of treatment a fair trial, side by side, and form their opinions from the results instead of from mere theory, there is scarcely an instance where they do not strongly approve good culture. All we ask is thorough experiment.

The other objections of the writer we have quoted, as well as of others, are, the "barking, rubbing, and skinning" of the trees. This is a matter in which cultivators can have their own choice—they can mutilate their trees or not, as they may elect, according to the care they devote to the work. We have seen a plowman, in his earnest endeavor to avoid injuring a hill of potatoes, run over and bark a young pear tree that had cost a hundred times as much. Young trees too often receive more neglect and bad treatment than either corn or potatoes—"they must take care of themselves"—the corn and potatoes will not. While this feeling prevails, they will of course be "barked, rubbed, and skinned." The roots of orchard trees, are not merely a small tuft at the foot of the trunk, but they have covered the whole surface of the ground, long before the tops have extended half as far; and it is therefore of little consequence (except on the score of neatness,) if the plow or harrow does not pass within a foot or two of the stem. A yoke of oxen, or two horses placed *ad tandem* with a short whipple-tree, will however admit of as close working as any one may desire.

In one respect we agree entirely with the writer quoted —he remarks that "a tree should be lord of the spot planted on, and not even encroached upon by having its larder in the ground consumed by root-crops." We can furnish him a good example in proof—a number of young fruit trees standing in a field of well-hoed beets, made only one-half the growth of another portion where the soil was kept perfectly bare and mellow by cultivation throughout the season. Yet both far out-grew other trees standing in grass, which this writer, most singularly, admits without reserve in his orchard.

IMPROVING THE FARM.

The improvement of the soil is not second in importance to any of the interests of the farm. Next to a supply of the immediate wants of his family, the farmer's first concern is to make his land more productive, for this is the source of all his advancement. It is almost universal in this country, that the low condition of the soil makes the profits of farming very small. It is very plain that the nett profits of land which produces fifty bushels of corn per acre are very much greater than of that which produces forty bushels. For if thirty bushels will pay all the expenses, there is a profit in the first of twenty, and in the second of ten bushels. If this ratio hold in all the other crops of the farm, we may be warranted in saying that an acre of the first is worth as much as two of the last. Every addition to the income of the farm above the expenses is nett profit, which shows the true value of the land. If the annual nett proceeds of an acre of land of seven dollars shows the land to be worth a hundred dollars, a nett of fourteen dollars would indicate the land to be worth two hundred dollars. Or if you please to put it in another form, he who tills a hundred acres, which produces fifty bushels of corn, and other crops in proportion, enjoys a nett income of fourteen hundred dollars a year. While he who raises only forty bushels has an income of but seven hundred.

This is conceded generally, but the American farmer is slow to show his consent to the principle, by his practice. In England it is well understood. The first thing the tenant does there, though he is to hold the land no more than twenty years, is to lavish upon it enormous expense, to ensure good crops. He cannot afford to raise poor crops. The time has come here, when we cannot afford to work upon poor land. The improvement of the soil therefore commands the first place.

The means within the reach of our farmers for this end, are limited, except in some cases where manure can be purchased in towns, or where mineral and artificial manures may be used. The chief resources are upon the farm, in the barn-yard and hog pen, and in the use of green crops. When the manure is applied chiefly to grain crops, it is but partially available for the improvement of the soil, and the necessity for immediate income from the farm is generally so pressing, that few have confidence enough in the future, or patience, to forego present profit, for sure and greater returns hereafter. We all know that it is a slow process to enrich a poor farm from its own resources, especially in the beginning. There is a certain point of poverty, at which the farm grows poorer, and from which it is a difficult and slow process to rise. There is almost nothing to begin with. It is like the first insignificant earnings of a poor laborer to be put at interest. But if a certain point of fertility be gained, the crops will increase the manure, and the manure will increase the crops, and the farm grows rich in geometrical ratio.

The simple and obvious rule for raising the fertility of a farm, is to raise more forage, which if properly fed will add to the means of fertility. The application of this manure is scarcely less important. If applied to grass and other forage crops, the improvement of the soil will be immediate, and ultimately all the crops of the farm will share in the gain. This is the sure, though indirect way to have large and profitable crops of grain.

The grass crop should also be directly cultivated. Meadows of dry land and old pastures often need cultivation, with direct reference to the grass, not as is often practiced, reducing the land by taking off two or three crops of grain, before seeding down. There is no crop that so surely pays for the best use of the land and good cultivation, as grass. In case of worn-out land, which cannot be highly manured, it is a good course to give it thorough cultivation by a fallow, as for wheat, and then about the first of Sept. sow liberally of timothy seed, and in the spring, of clover. Those who have not tried it, will be surprised at the product of grass and the renovation of the soil. If the land is quite poor, there should be a light dressing of manure. Where farm manure is not at hand, it will be best to apply some commercial manures. I do not know of any other circumstances where guano will pay so well. It excites an immediate growth, though of course not so lasting as others.

Turning under green crops has been often practiced with success. I have tried it but little. On farms of dry land it is well to resort to sowed corn, roots, oil cake and other articles for feeding, though I suppose the main reliance should be on grass, in which there is almost no limit. And grazing is also nearly as profitable as grain growing.

I need not add to what is so fully set forth in the Country Gentleman, in regard to the importance of draining wet lands, and of saving manure, &c. And I do not believe in that stereotype theory which would have every farmer sell half his land, that he may be better able to improve the other half, not being able to see how fifty acres can improve itself easier than a hundred acres can. It is certain that the renovation of a worn-out farm is a work of many years, except in those cases where manure can be purchased, and should therefore be entered upon without delay. It is also certain that no other work of the farmer will so surely be well rewarded. N. Reed.

Duchess County, March, 1863.

Domestic Yeast.

Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, in two gallons of water for one hour. When milk warm, bottle and cork it close. It will be fit for use in 24 hours. One pint of this yeast will make 18 pounds of bread. N. J. Clute.

Schenectady Co., N. Y.

Water Lime Paint or Wash.

The Co. Gent. of March 5, has a brief article on this subject, giving a recipe for making a durable wash of water-lime, fine sand and salt. We noticed last season a picket fence of a pleasant drab color, and was told that it was painted with water-lime and buttermilk. It appeared unchanged by one year's time, so last fall we applied the same mixture to an out-building, the walls being formed of machine planed pine flooring. It looks well, and stands the weather so far perfectly, though one end suffered somewhat from a storm coming on while we were applying the wash, making it rough, so that it was necessary to repaint it. The color can be readily changed by a mixture of other paints, if desired. We put it on with a large paint brush—the whitewash brush not working so well to our notion.

Our water-lime appeared to contain a mixture of coarse sand, but the mason we employed said it was of the best quality for plastering cisterns. J. H. B.

PRODUCE OF DAIRIES IN BUTTER AND CHEESE.

Year.	No. of Cows.	Yield of Milk in Gallons.				Yield of Cheese.		Yield of Butter.				Value of Produce.†	
		Total.	Per Cow.	Given to Calves and Pigs.	Made into Cheese.	Total.	Per Cow.	Milk.	Whey.	Total.	Per Cow.	Total.	Per Cow.
						lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	£ s. d.	£ s. d.
1855,	30	------	--	----	------	10,864	329	2103	691	2794	93	444 0 0	15 0 0
1856,	45	------	--	----	------	19,040	423	2272	647	2914	65	711 0 0	16 0 0
1857,	55	31,728	577	----	------	25,424	464	3375	91	3466	63	906 0 0	16 10 0
1858,	52	23,247	447	----	------	20,160	388	4687	344	2031	30	638 0 0	12 5 0
1859,	60*	32,009	533	3490	28,607	22,733	378	4728	607	2425	40	795 0 0	13 5 0
1860,	66	34,470	522	3439	31,031	29,344	444	4757	729	2486	37	1070 0 0	16 4 0
1861,	71	38,831	550	4874	33,957	32,262	454	4589	862	2457	34	1068 0 0	15 0 0

* Several had slipped calf.

† Including value of butter, and milk and whey used for pigs and calves.

The *North British Agriculturist* furnishes us the above valuable table, exhibiting the results of the dairy operations of Mr. Harrison of Froecester Court, Scotland, for the years named. The figures "state the number of the cows, the total yield of milk during the year, the number of gallons yielded per cow, the quantity made into cheese, the number of pounds of cheese and of butter made, and the value of total produce during the year per cow. It will be seen how various is the year's experience, whether as regards the quantity or the quality of the milk. And curiously enough it is by no means the year of greatest quantity which proves the year of poorest quality. When the cows yielded 550 gallons a piece per annum, the milk made .95 pound of cheese per gallon. When the yield was only 522 gallons, it made only .94 pound per gallon. The extremely various yield year by year, too, is worthy of note: not more than 329 pounds of cheese, and 93 pounds of butter per cow one year, 454 pounds of cheese, and 34 pounds of butter another year. The value of the produce, too, varies exceedingly, showing the extremely chequered experience of the dairy farmer."

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VARIETIES OF WHITE BEANS.

Kidney, Marrow, Medium and Pea Beans.

The cultivation of white beans as a field crop has been largely extended within the last few years, and the demand consequent upon the great increase of the army and navy has made them one of the most profitable crops grown by the farmer. It cannot be expected, however, that the present high prices will continue another season, even if the rebellion be not put down; first, because more acres are likely to be planted, and second, because the last crop was, comparatively speaking, a light yield; yet under favorable circumstances they can be grown for $1 per bushel, and pay a fair profit. A good deal of interest has been manifested in regard to the different varieties; hence we have gathered for your columns some items in regard to the leading kinds known in market.

The *Kidney*, or Naval bean, has not been grown very largely, save in limited sections, until the past year. It is kidney shaped, about five-eighths of an inch long, rather later, we think, than the Marrow, (those we grew were two weeks later,) inclined to vines, but yielding well, and a very superior bean for cooking. It usually brings the "top of the market," and where it can be planted early, and not too largely, so as to give plenty of time and room for harvesting and curing, will pay well for the extra trouble.

The *Marrow*, formerly known as the Mountain June, is now pretty well known and disseminated. H. T. Brooks, Esq., of Wyoming Co., in a recent issue of the Rural New-Yorker, gives the characteristics of this and the medium variety, coinciding very nearly with our own experience. "In this section," he says, "where beans are extensively grown, the Marrow is preferred to any other. It is white, roundish, early, cooks quick, sells high, and yields well." It comes up quickly, an advantage on weedy ground, but does not thresh quite as easily as the medium, and is very liable to crack open if wet in harvesting, which injures its appearance and saleableness; and, with Mr. B. on the whole, we prefer

The *Medium*, which "is smaller, not so round, does not cook so soon, being firmer and more suitable for a sea voyage, is white, and now sells about one shilling less per bushel than the Marrow. It ripens a week or ten days earlier than the latter, a very material advantage when we have early frosts, and when we wish to follow with winter grain. According to my experience [and mine] the Medium yields decidedly the best, especially if the land is rather poor," but pulls less easily than the marrow, having smaller vines and more stalks. We have found the "Medium" to ripen more evenly than any other variety, a considerable advantage as regards the quality and price of the crop.

The *Pea* bean is but little known outside the New-England States, as we have never seen it mentioned in other market reports. Dr. O. W. True of Maine, gives a description of this variety in the Genesee Farmer for April, in answer to an inquiry from Niagara Co. We planted a few hills last season with seed from Massachusetts, and were favorably impressed with its growth and appearance, but through some one's mistaken kindness failed to save our little crop. Dr. True says:

"They are a small, white and nearly round bush bean, in length about three-eighths of an inch, a little oval, or a little wider than thick, which is about one-quarter of an inch, very handsome, and not having near so beany a taste as the marrowfat when cooked. They are not a very early bean, nor a very late one; five beans to the pod are the average; grow from fifteen to twenty-four inches, but on heavy rich soil are apt to vine some; are not large yielders, because they are so small and will not bear high manuring, but pod well and yield well according to the bulk of vines. They are easily cured, and command the highest prices for beans in the Boston market."

Another variety, quoted in Boston about fifty cents lower than the extra Pea, is the "*Blue Pod*," which Dr. True thinks the best cooking bean known. We should be glad if some of your New-England correspondents would give us a description of this variety? J. H. B.

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Shaking Trees when Planting.—"O. K." of Rochester, Mass., says in the *N. E. Farmer*, to his mind, the practice of lifting or shaking apple or other trees when setting, to straighten the roots or work the loam around them, "results in evil and only evil. As you draw up the tree" he adds, "of course those roots that were well spread and straight are hauled out of place, and of necessity cramped and crooked as it settles. The loam should never be *thrown* on to the roots or against the tree—as in the one case it cannot be properly worked in among the roots, and in the other will displace the tree from its true position in the row."

Growing Flax and Barley together.

One of my neighbors last season sowed Flax seed with his Barley, and raised an average crop of each, and I wish you and your knowing readers to publish their experience in sowing these seeds together. By giving information you will confer a favor. J. A. McC.

In answer to the above we give the experience of several correspondents, as published some years since. In The Cultivator for 1846, Gaius Stebbins of Madison county says:

It did not occur to me last spring to try the experiment of sowing barley and flax together, till I had sowed all but one acre. I then bought me one bushel of flaxseed, and on the acre which I had not sowed, I put on three bushels of barley, and from six to seven quarts of flaxseed mixed together, and sowed the remainder of the bushel of flaxseed on a number of acres more, even when the grain had come up and let it take its own course, without dragging. I had $15 worth of flaxseed from the bushel sowing; as to the acre in question, I judged that I had fifty bushels of barley and about six bushels flaxseed. My crop was all harvested together, therefore cannot be so particular, but the farmer who wishes can learn by experiment. One idea I will add, that if farmers will sow about five or six quarts of flaxseed to the acre with their oats for horse feed, they will not need to visit tamarack swamps to obtain medicine for horses; all will be right in a cheaper way. In cleaning up the grain, if you wish to keep the flaxseed with the grain, a thin board must be substituted for the lower sieve in the fanning mill, otherwise the flaxseed will be left in the tail box.

In the same volume, another correspondent writes as follows:

In a conversation with a gentleman from Montgomery county yesterday, he informed me that a number of farmers in the town of Florida, had made the experiment in sowing flaxseed and barley together, and in every instance succeeded admirably—that he sowed himself (on a certain piece of land, not specifying the amount,) ten bushels of flaxseed and eight bushels of barley, which produced one hundred and thirteen bushels of seed and eighty bushels of barley. He also informed me that his cattle eat the flax and barley with a good relish.

In The Cultivator for 1850, we have the following statements:

I recently purchased from Mr. Lawrence Gardener of Charlton, Saratoga county, N. Y., a little short of twenty bushels, which he raised among his barley, from a little more than a peck sown. Mr. Gardener assured me that the flax by no means interfered with the growth and yield of the barley—that it did not interfere with the harvesting, but on the contrary, it kept the barley so together as to render the harvesting less difficult.

Mr. Reed Mills of South Williamstown, Mass., states that he sowed an acre and a half of ground with three bushels of barley and one of flaxseed. Before sowing he soaked the barley in weak brine 24 hours, then rolled it in plaster, and added the flaxseed, mixing both together. He obtained 40½ bushels of barley, 9 bushels of flaxseed.

REMEDY FOR STRETCHES IN SHEEP.

Messrs. Editors—I noticed an article in the Co. Gent. of Jan. 8th, signed "R. N.," Randolph, Vt., giving an account of a Farmers' Club which was held at that place. The part to which I wish to allude is stretches in sheep. I have formerly kept a large flock, and have lost several by the above disease, but found what I considered a sure cure? When the first symptoms are discovered, bleed the sheep freely in the third ridge or wrinkle in the mouth, and drive it around the yard for a short time briskly, causing the blood to flow copiously. I have often tried the above remedy with perfect success. If it should prove as successful to others as it has to me, it is well worthy of a trial. D. M. M. *Delhi, N. Y.*

FEEDING CABBAGE.

During the summers of 1857 and 1858 we kept only one cow. Our pasturage being very limited, and cow breechy, we looked around for something to soil, or furnish her with green feed during the latter part of the summer and fall. Having a patch of growing cabbages, numbering 1,200 or 1,400, it occurred to me to try picking and feeding the lower leaves of the growing cabbages. When the cabbages got well to growing, and throwing out large leaves, we commenced picking and feeding, and continued until late in the fall, when we gathered the crop. We began to feed gradually until we fed the animal all she would eat. Her condition improved, and she yielded a good flow of milk, which produced a fine amount of butter. But there was one drawback. The butter had a flavor of the cabbage; but after using a few times we became accustomed to this, so we did not notice it. This flavor would make it objectionable to some people, but perhaps not to the lovers of the cabbage. In the fall we gathered a good crop of well headed cabbage, the picking seeming not to have materially injured the crop. We did not pick over one-half of the patch, as the fresh leaves (of the part located near the yard) grew as fast as we could use them. In the summer and fall of 1858 we tried keeping store pigs almost entirely on cabbage leaves, picked fresh for them twice a day. They grew finely. The results of these experiments satisfied us so well that we have continued the growth and feeding of cabbage—as far as our circumstances have permitted—and have reason to be abundantly satisfied with the result. Let your readers try the experiment and report the result.

Dodge Co., Wis., March, 1363. L. L. FAIRCHILD.

Remedy for the Onion Maggot.

Messrs. Editors—Having seen a good deal in the papers about the Onion Fly, I concluded to tell you how I treat my onions. Some time in July I have a barrel set in some convenient place, put about half a bushel of wood ashes in it, then about the same quantity of bones, and fill the barrel two-thirds full of ashes, and have it well wet with chamber slops. From that time till the next spring I have all soot from the stove pipes and the cleanings from the stove chimneys, put into the barrel and wet with slops. When the maggots make their appearance, I have the contents of the barrel well shovelled over, and put on to the onions about an inch deep in the rows. If it is deeper it is no matter. The first rain will wash it down. Last spring the maggots made their appearance when the onions were quite small. I was afraid they were spoiled, but applied the dressing and saw no more of them.

Saratoga, N. Y. A SUBSCRIBER.

A BIG PIG STORY.

Editors Co. Gent.—Supposing I could tell a bigger pig story than any other of your subscribers, I have thought you might choose to publish my statement.

I have now in my pen a breeding sow with a family of 12 pigs three days old—two of the litter have died, making 14. In September last she had 13, of which 11 lived. First of April last she had 13, of which 11 lived, making 40 pigs within *eleven* months.

The 11 first April pigs I fattened and killed at 9 months old, and they weighed when dressed, as follows: 345—342—322—318—319—310—308—292—252—263--280 pounds. At the price I am offered for the pork in the barrel, and the lard, the 11 would make me over $7 per hundred.

Say 3,550 pounds at 7 cents,	$234.50
Some of the Sept. litter I sold when five weeks old at $2 each, and gave some to friends—11 at $2 each,	22.00
12 now in pen are worth $2 each,	24.00
Total,	$280.50

Trumansburgh, N. Y. Feb. 28, 1863. WARREN HALSEY.

A GREAT LITTLE FARM.

There has been formerly some discussion in this paper on the subject of the most profitable size for farms. This discussion we shall not renew at present, but merely add a few facts which may have a bearing upon it. The best specimen of farming on a small scale, that we are acquainted with, is that of Nathan G. Morgan, who resides near the village of Union Springs, N. Y. He formerly had a farm of 300 acres—he subsequently reduced it to 160—but afterwards, in consequence of protracted illness in his family, he removed to his present place, which consists of only *eleven* acres. He has occasionally remarked that even this is too large.

From this diminutive farm he sells annually, on an average, besides retaining enough for the use of his family, about two hundred dollars—he has sold three hundred dollars of farm products in a single year. He performs all the labor with his own hands. He is especially successful in raising *pork*, and finds this the most profitable branch of all kinds of farming, much more so than raising wheat. He long since gave up raising cattle as being far less productive. His corn crop averages about 80 bushels per acre—he has raised in a former year, 130 bushels of shelled corn per acre. By his mode of management in pork-making, he realizes a dollar a bushel for his corn when the pork is five cents per pound in market. He keeps a good horse on one acre of land the year round, by soiling, feeding corn, &c. He thinks corn, fed in the ear, the best grain for horses, as they are long in eating it and it therefore digests well; but fed to swine its value is nearly doubled by grinding and scalding. He is a successful fruit-raiser—and his whole premises indicate neatness, order, and good management.

He thinks that a large farm may be made as profitable as a small one if equally well managed; but the temptation, in nearly all cases, is to do the work too superficially. If he had ten boys, he says 100 acres would keep them all profitably employed.

It is intended to give a detailed account of his mode of making pork, in the next Illustrated Annual Register.

LETTER FROM JOHN JOHNSTON.

Near Geneva, N. Y., March 19, 1863.

Messrs. Editors—In your last issue, page 192, your correspondent mentions Mr. Clark's cattle. One of them, or perhaps two, were fatted by me. On the 13th ult. I sold Mr. C. one 5 year old steer I had fed for 3 years, weighing, I suppose, about, or perhaps some over, 2,800 pounds. He was a very fine animal. I at the same time sold him a very fine cow, 5 years old, estimated to weigh 2,200 pounds; she had not had a calf for nearly two years, was milked until she left me, and she was a very fine animal, high grade Durham. The steer was part Durham, part Hereford, and part of the common stock. The price at which Mr. C. sold them appears high, but at the price the feeder would not be paid for the length of time fed. Although I advocate high feeding, I don't advocate feeding a long time with cattle of two years old and upwards; after they have got to be what is called extra or prime beef they never pay for longer keep, especially pure Short-Horns, which come early to maturity, and should go to the butcher from two to three years old, and then they are very profitable cattle to fatten, the most so of any breed I am acquainted with.

I sold a pure bred Durham heifer to the butcher on the 3d inst., 2 years, 11 months old, that weighed alive 1,670 pounds before being shut up at sunset, without food or water until 8 A. M. next morning, when he weighed 1,625 pounds, losing 45 pounds in that time, which is about the same as I generally find the loss. Now this heifer had a calf on the 23d of last September—the calf sucked her 4 months and 10 days, and she was milked afterwards until the day she went away. Her feed was 4 quarts of corn and cob meal daily, with cornstalks for fodder, *and no more*. The pure bred Durhams *are wonderful cattle to fatten*, but she was a poor milker. I have not heard her dressed weight, only that she had 150 pounds of tallow, exclusive of the kidney tallow.

I have two yearling steers, grade Short-Horns, (will be two years old the 8th and 15th of next month,) that weighed on the 26th ult. 2,830 pounds, having gained 1,230 pounds in the last 12 months. I expect that by the first of May they will weigh 3,000 pounds, or over, and think I can sell them then for $160. They got nothing but pasture last summer and autumn; their feed since the 1st December has been 4 to 5 quarts of cob and corn meal each daily, with cornstalks for fodder, until recently; I got a chance to buy some oil cake meal as cheap as corn is selling, and I now feed each 4 quarts of that daily, and hay. I fatted 150 sheep this winter on buckwheat and straw. I bought the buckwheat a year ago, when very low. Fattening sheep has been very profitable this winter, owing to the enormous price of skins.

We have had a very mild winter, very little snow.

JOHN JOHNSTON.

The Division of Sheep in Small Flocks.

Eds. Co. Gent. and Cult.—I frequently notice articles in your paper relative to the Winter Management of Sheep. Said articles are not unfrequently written by men extensively engaged in Sheep husbandry, and being in possession of large numbers of sheep, they recommend the division of flocks into numbers, larger than the majority of the readers of the Country Gentleman possess.

Now some of these minor breeders may entertain the erroneous idea that because they possess fewer sheep than these extensive breeders recommend being placed in one flock, that a division in their flock is entirely unnecessary, although they have sheep of different ages and strength. Now a division is, in my opinion just as essential in a small flock of 50, if said flock consists of sheep of a different age and strength, as in a larger one of 200. Every one acquainted with the habits of sheep, must acknowledge that a flock of wethers and of breeding ewes and lambs, will not thrive equally if confined in a flock together; for proof of this we have only to refer to some flocks within our knowledge managed in this way. More especially will this prove true if you are desirous of feeding your sheep grain, which in no case should be neglected. The larger and stronger ones will crowd the weaker ones from the trough, and they will fail to obtain the daily allowance designed for them by the otherwise careful shepherd. Almost every owner of sheep winters more or less lambs, breeding ewes and wethers. My plan and practice is to place my wethers in one flock, breeding ewes in another, and lambs in another, and by this practice I am enabled to feed as circumstances dictate.

Lambs require more careful attention than the sturdy wether or the breeding ewe, and for this reason should they be kept separate from other sheep, and be fed upon good hay twice a day, and some bone and muscle producing grain once a day. Oats will answer their purpose very well. I practice feeding breeding ewes corn and oats of equal quantities, and never have any trouble in rearing my lambs. My flock of 23 ewes in 1862 raised 30 lambs, all of good size. I have one ewe that has outstripped the others, and given birth to 4 lambs in a trifle over 9 months, all alive and well. Wethers may be kept upon poorer feed, with less actual loss to the owner, than the breeding ewe or lamb. Yet I wish to be understood as advocating the principle that whatever is worth feeding at all is worth feeding well. But wethers having generally attained their growth, there would be less danger of stinting, than would be the case with the lambs, and not being dependent upon them for rearing lambs the ensuing spring as would be the case with the ewes.

Another important advantage derived from the division of sheep into small flocks, is the small amount of time required for the distribution of the grain. Whereas, in case the flock was large, more time must be occupied in distributing the grain, and the timid ones would be kept longer from the trough by your presence, while the tamer ones would rush in and obtain more than their honest share. W. F. BAGGERLY. *Wayne Co., N. Y.*

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More about Cheese Factories.

The Wapping Farmers' Club, page 159 COUNTRY GENTLEMAN, make two inquiries which I consider myself bound to answer.

To the first inquiry I would say that heretofore all the cheese factories with which I am acquainted, have been constructed on private account for the sole purpose of profit—the owner of course furnishing everything, and with no guarantee of the milk of his neighbors' cows beyond one season; after that he depends upon mutual self-interest to continue the connection.

By skillful manufacture, by the production of large cheeses, and by the production of cheese through a longer number of months than any private dairy could possibly do, the cheese factory has been enabled to pay its customers more money than they could have sold their own dairy products for. Besides, they have saved the female part of the household an infinite amount of work, and no farmer that I ever heard of has gone back from the factory to the private production of cheese. There is no danger of a well located cheese factory, having the advantages of nearness to the milk producers, and reasonably well managed, losing its patronage.

I said that *heretofore* all the cheese factories with which I was acquainted, were built on private account; lately, however, several have been organized as joint stock companies, which in New York is effected under a general law, embracing every variety of manufacture from a cotton mill with a capital of half a million down. These companies expect of course to save the one cent per pound which the private factory exacted, but it is questionable in my mind whether they will realize their expectations. What is everybody's business is too often nobody's business, and it is doubtful whether all sorts of waste, with a want of responsibility, will not cost the companies all they expect to save.

As to inquiry number two, I say decidedly, that 80 to 100 cows in the aggregate, will not make a cheese factory pay. 300 cows is the least number that it would do to start with, with a view to profit. Your largest cheese maker might add his neighbor's milk to his own, and in that way make something upon the smallest number named.

The Wapping club can easily calculate for themselves. It is a good dairy that will make 400 lbs. of cheese per cow. Now multiply 400 by 80, and you get 32,000 lbs. of cheese, which at one cent per lb., would yield $320. But to make this cheese you would require quite as expensive a factory, and two-thirds as much help as you would for 300 cows. W.

Utica, March, 1863.

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BUTTER FROM EIGHT COWS.

MESSRS. EDITORS—Having been a reader of your valuable paper for several years, and occasionally seeing therein statements in regard to the products of dairies, large and small, and being a little partial to that kind of husbandry, having had some experience therein, I thought I would give you a statement of the product of a small dairy of eight cows, between the 20th of March and the 29th of Dec. 1862, hoping some of your numerous patrons will profit therefrom.

The cows are owned by CALEB FROST, a resident of this place—a plain unpretending farmer, and worthy member of the Society of Friends, who gave me the statement of amount of butter made, &c. I might add that friend Frost has seen too many years, to be able to labor in the field with his hands; he therefore keeps his eye upon his business, and attends to the working of the butter in person.

The amount of butter made was two thousand eighty pounds, just 260 lbs. per cow at that date (Dec. 29,) and he was making butter from them a few days since when he gave me the statement.

The butter was in part marketed in pails and part in firkins, and brought an average of 25½ cents per pound.

The milk was fed to one yearling bull, and the remainder to two sows and pigs, butchering and selling off the pigs as they grew to require more feed than the milk and pasture to which they had access afforded them, making two thousand five hundred and fifteen pounds of pork. And that without feeding but a *very trifling* amount of grain, notwithstanding the opinion of your correspondent J. L. R. of Jefferson county, as published in your paper of the 5th instant, "that skimmed milk is scarcely worth the trouble of feeding."

From about twenty years experience in dairying on a small scale, having kept from ten to fifteen cows most of the time, I am of the opinion that there can and should be made from the skimmed milk (with perhaps a small clover patch for the pigs to run in,) at least as many pounds of pork as butter, as was in this case, or at least would have been if the milk fed the bull had been given to the pigs.

I regret that Mr. Frost did not keep an exact account of the manner of management with, and amount of grain fed both to the cows and pigs. As he did not expect his dairy would receive any public notice, and looking only to the profits, he did not consider it necesary.

But he gave me the following general statement of his keeping his cows. First, they are well housed and stabled through cold weather, and fed through the winter and spring on straw, stalks, hay, and a little grain; he could not say just how much, but not differing very materially from other good farmers. Through the summer to Sept. 1st, he fed the 8 cows in their stall, ten quarts of corn meal once a day, making a little over one quart of corn meal each cow per day; and from Sept. 1st he fed them one mess a day of corn fodder, cut and fed from the lot, until cold weather set in and foddering time arrived without other feed except pasture. And now let us see how the figures of this small dairy will look.

2,080 pounds of butter, at 25½ cents per lb.,	$530.40
2,515 do. pork, at 6 do. do.	150.90
8 deacon skins, at 50 cents,	4.00
And I might add, just "to be in the fashion," that the milk fed the bull was worth about	8.00
And cream and milk used in a family of six persons, about	6.70
	$700.00

Which would make in all the sum of seven hundred dollars, or eighty-five dollars per cow. Deduct from the above the value of the two hogs and the *extra* feed, and see how it will then stand:

The two sows in March, and before dropping their pigs, worth about	$20,00
80 bushels screenings and unmarketable grain, worth about 45 cents per bushel.	36.00
40 bushels corn meal fed cows, worth here last summer 6 shillings per bushel,	30.00
1 acre corn fodder fed cows,	14.00
	$100.00

We now have left the snug little sum of six hundred dollars, or seventy-five dollars per cow. A fair return I think for the ordinary expenses of the dairy, and one that will compare favorably with any other farming operation, even the raising of wool in these very wooly times.

I designed saying something in regard to the breed of the cows comprising this dairy—also something of the breed most likely to produce great milkers, &c., but as I have extended this communication too long already, I will omit it for the present at least. WM. R. TANNER.

Medusa, Albany Co., N. Y., March 7, 1863.

Agricultural Notes in Cayuga County---I.

As I shall prepare a Report on the agriculture and mechanics of our county, in connection with the agricultural and horticultural statistics, which we are now collecting, I propose to pen a few articles on Cayuga county farming, and on the various subjects intimately connected with farming in our county. My plan now is to visit every town in the county, during the coming season, and to learn what kinds of grain are grown for the most part in different localities, what kinds of stock are raised, what improvements have been made, and are now in progress, both in the field, in the flocks and herds, and in agricultural tools and implements, and to give the details of the systems of management among good and successful farmers. And I trust that the readers of the COUNTRY GENTLEMAN and CULTIVATOR will be somewhat interested in the notes that I may be able to furnish you for publication. I shall aim to be practical and brief.

Farmers' Gathering in Fleming.

As it was announced in our city papers that there would be a gathering of farmers on the 14th of March, at the residence of Mr. Henry O'Hara, the President of the Cayuga County Agricultural and Horticultural Society, H. W. Dwight invited me to ride with him to the gathering, about seven miles out of the city. While there we looked around a little to see what improvements he had made, and is now making, &c.

His spacious barn and sheds and stables were all in good order; his tools and agricultural implements were all under shelter; his cattle and sheep were all in good condition, and everything appeared to have a good place and to be well cared for.

In one part of the barn is the horse power, with which he thrashes his grain, grinds it, cuts his straw, grinds apples, &c. On one side are cattle stalls, and on another are horse stalls; and here is a spacious meal box, and there a grain box; and on one side—all under shelter—is a watering tub, where horses can drink, or water can be obtained for mixing cut feed for stock of any kind.

His cows, of which he has several good ones, all have good stalls, with a door behind each one, where they feed from racks and mangers.

A Model Sheep Barn.

At a short distance from the main barn, is a sheep barn, the lower part of which is occupied as a shed and feeding apartment also. On the upper side of the sills, entirely around the building, is a trough for feeding grain. A few inches above the trough is the hay rack, constructed with rungs, or rounds like a ladder. The hay is pitched into the rack from above, and if the sheep chance to pull out more than they eat, the mangers or troughs will catch it, when they will eat it before it drops beneath their feet.

And here is another feature which is worthy of note. None of the hay is wasted by being scattered about the yard, and when thrown down the sheep cannot run over it. And, more than this, they waste less, and eat their hay cleaner, than they will with any other rack that I know of.

When sheep can thrust their heads into hay, as they do into the box racks, they will usually select the better portions of hay first. But in this style of hay racks they are obliged to pull out both good and poor at the same time. The sheep are all fed under shelter, and when the winds howl, and the cold and wet storms rage without, the sheep can all be comfortably protected from storms by closing the windows and door. In mild weather, as the windows are all made to slide, they can be opened at pleasure.

The siding of this barn consists of inch boards, with the joints neatly matched, so that no snow can drive through the cracks on the sheep, which is a very important consideration in our climate, where we have such sudden transitions from heat to severe cold.

A portion of the space below is divided into pens, in which ewes with young lambs, or any other sheep, may be kept when it is desirable to separate them from the flock. His sheep have access to pure water at all times, and are well littered with straw, not only in the barn, but in the yard.

The Poultry House.

Mr. O'Hara keeps a good variety of fowls, and a good number of Cayuga Black ducks; and they enter the poultry house through small doors in the wall, on which the building stands. The building is about 14 by 16 feet square; and the lower story is used as a feed-room; and on each of its sides there are rows of boxes for nests. This room is well lighted, and in cold weather can be closed tight, so that the fowls have comfortable quarters.

The hens, geese, ducks, and all, ascend into the upper story to roost, on a wide inclined plane, with cleats nailed across it, to keep them from slipping. Small chickens will soon learn to ascend to the roost, where they are safe from nocturnal marauders in quest of poultry.

The poles on which the fowls roost, extend the entire length of the building, about one and a half feet below the rafters; and they rise one above the other, like steps, from the plates to the ridge of the roof. All the droppings fall on the floor without touching any of the fowls on the poles below; and there is sufficient room beneath the fowls to walk along and take any fowl from either of the poles, without disturbing the others. Here, beneath the roost, is collected enough of the most choice hen manure to produce fifty bushels of Indian corn, were it properly applied to the corn crop.

In addition to the animals already mentioned, Mr. O'Hara has two as fine brood sows, of the black Berkshire breed, as we have ever met with, which will farrow about the 1st of April. The Berkshires rank about as high in our county as any other breed of swine. The only objection that I have ever heard raised against them, is their small size for market pork.

Experiments with his Cast-iron Mill.

The chief attraction of the day, was the operation of Mr. O'Hara's portable grain-mill, which is driven by his eight horse sweep-power.

In order to show us what it is capable of performing, he hitched on eight horses, and the mill was run at moderate velocity. President H. W. Dwight held his watch, and they ground in fifteen minutes, five bushels of Indian corn, oats, and buckwheat, in a good and farmer-like manner—sufficiently fine for any kind of animals to eat. He then took off four horses, and attached the sieve, and ground a half bushel of Indian meal. After this, he ground a half bushel into coarse meal or samp.

Then they ground a half bushel of the China-Tea wheat, and a half bushel of the white-flint winter wheat, and bolted it at the same time, making superfine flour. I took home with me a portion of the flour, and no one can perceive any difference between this flour and the best flour that has been made with burr-stone mills.

Varieties of Grain.

Mr. O'Hara raises the White-flint winter wheat, the China-Tea spring wheat, the six-rowed barley, the yellow eight and twelve-rowed Dutton Indian corn, the white, red glazed, and a variety of the Western *Dent* Indian corn, which he assured us will mature well in this latitude.

We have seen no fairer specimens of grain in the county, than we saw here. As cold winter reigned without, and as snow covered the fields, we could not examine any field operations.

Construction of Water-Works.

At a distance of a few hundred yards from the barn, there is a spring of never-failing water. From this spring to the barn, and thence to the house, there was a ditch dug about two feet deep, in the bottom of which a row of two-inch tile was laid, which conducts the water to the barn, and to the house, at all seasons of the year.

A coating of water-lime and sand was plastered entirely around the tile, so that the joints were all rendered water-tight. It operates well, and will be as durable as the hills. S. EDWARDS TODD. *Auburn, N. Y.*

CULTURE OF THE STRAWBERRY.

In twenty years experience I have found spring the best time for setting the plants. When I first commenced I followed the mode indicated by most writers, i. e., autumn planting, hilling, and cutting the runners. I lost many plants by the dry weather, and after much labor was poorly rewarded. I then determined to try spring planting—setting my plants one foot apart, each way, hoeing to keep the weeds down, until the runners commenced growing, and let them fill the bed—in the fall, give them a thorough weeding—in soil dry enough not to heave. Any hardy variety will winter well without covering. In the spring, when sufficiently dry not to pull the roots, I have them thoroughly raked off with an iron toothed rake; if some are pulled, no matter. I then have them cut into beds three feet wide, by spading paths one foot wide, weeding and thinning out the small plants. As the plants grow they will cover the surface and keep down the weeds. After they are through bearing I have them thoroughly wed; the next spring wed and thinned.

Such a bed will last three or four years, but it is better to start a new one every two years.

For fifteen years I have not failed of having all we could use, three times a day, and plenty to give away.

One great advantage is the saving of labor; another, that the fruit is always clean, even after a hard shower, and is not exposed to the depredation of birds.

One year I tried a bed 20 feet square, of the McAvoy Superior, in hills, and found the robins would not give me my half for raising—they took them all, thus releasing me from any obligations in the future. With the Wilson's they were more generous.

I grant that with hills and careful cultivation, you can raise larger fruit; but in my way I can beat any one where saving of labor is an object. T.

New-Lebanon, N. Y.

How to Destroy the White Grub.

EDS. OF CO. GENT.—Observing in your no. for March 26, p. 208, an inquiry how to destroy the large white grub with brown head, and also the like inquiry in a former number, I will mention how I got rid of that pest, though perhaps not the best way. Ten years ago this spring I for the first time planted corn on a field, on the North river alluvial flats, of 15 acres, where the earth was sandy, gravelly, and clay loam. The field had undoubtedly been under cultivation some 150 years, and probably cropped most of that time. On turning up the ground for corn I found it badly infested with the grub before mentioned, and which was very destructive to the corn, so much so that I got not more than a half crop. In the fall, after husking and drawing off the corn, I turned my swine in, and after picking up the scattering corn they went to work at the grubs, and I found they possessed an instinctive knowledge where to root for them.

As I got but a poor compensation by that crop, I was determined to levy another installment the next year; so I drew my fresh manure on in the winter as it was made in the stables, and what I could collect from the yards in the spring. At the proper time I had the manure spread and the ground plowed, part of it nine inches deep, part seventeen inches with the double Michigan, and the residue twelve inches with the same plow, having the swine in the field during the spring until the planting commenced. I had a fair crop of corn—about forty bushels of shelled corn to the acre on most of the field, and a fine crop of roots, mangolds, bagas, carrots, and potatoes, on the residue—the best on that part plowed seventeen inches deep, the poorest on that nine inches. All the crops had their share of the different depths of plowing.

The next year it was sown to oats in part, and barley on residue, and seeded to clover, timothy, and red top. Had a good crop of oats and barley, and seed took well. Then pastured three or four years, mostly with sheep. Then manured in winter and plowed in spring, and raised sixty bushels of corn to the acre from the field. Then a good crop of barley; with it seeded again, and last summer cut a prime crop of hay.

I rarely discovered a grub after planting the second year. I had been told that the field had not produced a middling crop for ten years before I cultivated it as above stated. That field is now cured.

Some seven or eight years ago I found an old meadow of forty acres, badly infested with the same grub. This field is of black mold. After haying I turned my swinish multitude on the field, and found they knew where to find the grub. Where the worm had cut off the roots of the grass, the swine would turn up the turf and devour them; and that was the last of the grub discoverable on the farm. The next spring that meadow was dragged with a fine-toothed drag, then seeded and rolled, and produced a good crop of grass the same year.

And now let me advise the reader *never to ring a pig.* If he is tolerably well fed, he will root only for worms, and the more the rooting for them, the better for the farm.

Saratoga Co., N. Y. Z. A. LELAND.

CURING CLOVER FOR HAY.

TREASURY DEPARTMENT, WASHINGTON, March 13, 1863.

MESSRS. LUTHER TUCKER & SON—A farmer in this vicinity, formerly of Pennsylvania, having cured his clover hay in, what appeared to me, a novel way, but which, if successful, produces a great saving of both labor and hay, and having seen a sample of his clover thus cured, which is very fine, I procured the enclosed statement from him for the benefit of "those whom it may concern," videlicet farmers; and I now send it to you for the same purpose. N. SARGENT.

FAIRFAX CO., VA., MARCH 12, 1863.

HON. N. SARGENT: Dear Sir—In reply to your note of yesterday permit me to disclaim any merit in the curing of clover hay. Sometime in the winter or early spring of 1861, I had a conversation on farming with —— Huey, a friend and farmer, residing in Chester Co., Penn., who was on a visit to Washington. In the course of conversation, he remarked that he experienced no more difficulty in the curing of clover, than he did in that of timothy or other grasses. I requested him to give me his method, which I followed as closely as I could remember, in manner following, viz:

I waited until about two-thirds of the heads of my clover grass were well browned. I put the scythes in about 9 o'clock, A. M., and continued cutting till about 2 o'clock P. M., and without turning or winrowing the grass, I immediately began to haul it into the barn—commencing where I cut first, and continued until all had been secured, which was, say 5 o'clock the same afternoon, and before the dew began to fall. I continued the same process next day, until the mow was full to the roof, pressing and packing as closely as possible, from the first to the last load. No salt was used.

After the grass—for grass it really was—had lain in bulk a day or two, the sweating process began, and continued for at least two weeks, and in which time the mass had shrunk say a fourth or more. During a portion of the time this sweating continued, the hay was very hot and quite wet—not damp—and by striking it with the hand, the water was dispelled in every direction. I next filled the space with oats, for the purpose of pressing the hay still more closely, and it remained in that situation until November, a period of about four months. After the oats had been removed the condition of the hay had entirely changed. For six inches, probably, the hay had molded, and was exceedingly dusty, but that portion being removed, the remainder I found to be perfectly sweet and bright, possessing all the virtues of the sample I exhibited to you yesterday morning.

HENRY C. STROMAN.

THE CULTIVATION OF FLAX.

The demand which is certain to exist for textile fabrics of every kind during the continuance of the "cotton famine," has directed the attention of both manufacturers and farmers to the culture of flax, and we are glad to know that there is a prospect of the extensive sowing of this crop the present season. The paper makers alone can use large quantities of the straw, and its production will thus be a relief to the wants of publishers. In the report read by Mr. John Stanton Gould at the late Annual Meeting of our State Agricultural Society, the following hints are given as to the main requisites in the management of the crop:

The most essential condition for the profitable growth of flax is good drainage, either natural or artificial. It is a waste of labor and money to sow flax seed on land where water stagnates round the roots. The next is to plow the land deeply, and to pulverize it thoroughly. The roots of flax will, unless prevented by a hard subsoil, penetrate full half the length of the straw into the ground, and the length and the size of the straw, other things being equal, will depend upon the length of the root. Hence if the farmer fails to fulfill these conditions, he will incur a heavy penalty.

The seed should be of the growth of the preceding year, plump, heavy, glossy, of uniform size and color, of a clear brown hue; if there are many seeds of a light drab chocolate color, the lot should be rejected. The seed to be sown varies in amount, according to the quality of the soil, and the portion of the crop which is deemed most valuable. Rich soils require less seed than poor ones, and where the production of seed is the principal object of the farmer, a smaller quantity is sown than where the lint is the chief object. When the culm begins to branch its value as flax ceases; hence that flax straw is most valuable which has the greatest length between the root and the branches. Thin sowing increases the tending to branch—thick sowing diminishes it. Where seed is the principal object, one bushel is sufficient to sow on very rich lands, or one and a half bushels on poor soils. When lint is the chief object, three bushels of seed should be sown.

Weeds, which are well known to be injurious to all growing crops, are peculiarly so to flax. No pains, therefore, should be spared to purify the flax seed from all foreign admixtures; and with a view of burying the seeds which have lodged on the surface of the soil, beyond the reach of germination, the plowing should be done with a Michigan plow, which more completely inverts the surface than any other; it is also desirable that the sowing should be suspended long enough after plowing, to give the seeds of any weeds which may be in the soil time to germinate. They are then to be killed by the cultivator, when the seed should be evenly sown and harrowed, once in the line of the furrows, and once angling with them, so as to diffuse the seed more equally; the field is then to be rolled smooth.

Many good farmers think it is for their interest to weed the field by hand after the plants are from four to five inches high. This is done almost universally in Ireland and Belgium. Where weeding is resorted to, care should be taken by the workmen to avoid any rotation of their feet. They should be set down and taken up perpendicularly, and the weeding should be done facing the wind, which will then assist in raising the trodden down plants. It is necessary that the land should be level, for if thrown into ridges the straw matures unequally; it should be smooth, so that the crop can be gathered with a reaping machine.

Soon after the bolls are formed, the lower leaves begin to fall off, and the straw becomes yellow from the bottom, about half its length upwards, when it should be pulled or cut with a reaping machine very close to the ground; if it is suffered to stand much longer than this, the straw is materially injured. The seed is then to be separated from the straw by means of a rippling machine. It is very desirable that the seed should be completely separated from the straw, because if any of them are left on, they are crushed in the breaking machine, and where the oil comes in contact with the fiber, it is almost impossible to separate it from the *shive.*

SPRING WHEAT.

The circumstances of the country and of our agriculture, were never before such as to promise the farmer greater inducements for exertion, or a better reward for his labors, than at the present time. A good market, at fair if not unusually high rates, may be confidently anticipated for all the Grain he can raise; and with the prospect that the West, with its diminished force of labor, cannot produce so vast a crop the coming season, as it has done during the three that preceded it, there is especial reason why the Eastern farmer should endeavor to increase the production of the older States. Under these circumstances we copy the following timely article on the Culture of Spring Wheat, from the Boston Cultivator, and hope it may lead to the growing of a larger breadth than usual of this important staple:—

It is yet too early to know how the fall-sown wheat has withstood the winter. We fear the weather has been unfavorable for it, from the frequent thawing and freezing. There can be no harm in preparing for a large sowing of spring wheat. The remark is intended for general application; but in regard to the cultivation of spring wheat in this State, and New-England generally, a few words may not be out of place.

Spring wheat succeeded very well, on favorable soils, in this section, for several years previous to the last. Some good crops were obtained last year; but the general yield was not so good as that of 1861. The principal cause of the failure was blight or rust. In a few instances the grain aphis injured the crop; but the injury from this insect was on the whole less than in 1861. The character of the last season, in this section, tended to produce blight. It was wet, with sudden alternations from clouds to sunshine, at the critical period when spring wheat was in blossom or the grains just beginning to fill. Such a season may not occur again very soon.

The soil best adapted to spring wheat does not differ materially from that which is best adapted to winter wheat. A pretty stiff loam, if sufficiently dry, is preferred. Stiff or clayey soils are, however, more retentive of water, and unless drained are liable to be surcharged in a wet season, and this induces blight.

Wheat does very well after corn. It is not advisable to apply fresh barn-yard manure to the crop, as it induces too rank a growth of straw, which is very liable to lodge down, or if it does not, is prone to rust. If the corn crop was well manured, no manure of any kind will be required for the wheat. But if the ground needs any, a light dressing of rotten compost spread and harrowed in, or a dressing of leached ashes, (the older the better,) or a few hundred pounds of ground bones, will do best. These manures do not increase the tendency to rust.

Perhaps a word should be said in regard to salt, as an application for wheat. It is sometimes called a *manure;* but so far as it has been carefully tried, either in England or in this country, its advantage is acknowledged to be *to check overgrowth.* Whether a substance which produces this effect can be properly called a manure, will not here be discussed. Its effect when applied to wheat, is to check the growth of straw, which thus becomes more stiff, less likely to lodge down, and consequently more likely to produce perfect grains. Mr. Johnston, near Geneva, N. Y., has used it to good advantage on his wheat fields.

It is important to obtain good seed. Shrunken and light grains cannot produce as vigorous plants as those which are well filled and heavy, and any weakness or defect in the plants predisposes them to disease or injury from unfavorable agencies. It is better to pay double price for perfect seed than to sow that which is very defective. Another point is to sow seed enough. If the plants stand thinly on the ground, weeds generally start up, which not only rob the wheat of its food, but render it more liable to rust. Every farmer may have noticed that if there is a blighted spot in his wheat field, it is where weeds are abundant. Two bushels of seed to the acre, broadcast, is not too much.

Very deep cultivation is not required for wheat. Land which was well tilled last year, will generally produce as good spring wheat if it is well worked over with a cultivator, as if it were plowed. Three or four inches of soil should be well stirred and pulverized, but a pretty firm substratum is favorable to wheat. It should be remembered that the earlier spring wheat is sown, provided the ground is in suitable condition, the more likely the crop will be to escape rust, and the better it will do on the whole, except in cases where it is attacked by the midge. Even where an attack from this insect is apprehended, very early sown crops are more likely to escape injury than any others, except those sown *very late*. The reason of this is, that very early crops are in advance of the midge, and very late ones behind it.

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HEMP CULTURE IN THE FREE STATES.

The present rebellion is destined to work a mighty revolution in the industrial pursuits of the country, a revolution not dreamed of by at least one of the parties involved.

Many acres of land will be devoted to the culture of cotton in the border states the present season, yet it can hardly be expected that its production in the states north of the Ohio, can remain remunerative beyond the period of extraordinary prices of that great staple.

In view of the scarcity of cotton, flax is now attracting general attention among the farmers of the free States. The present high price of seed will also encourage its cultivation. For many years some attention, both in Europe and America, has been given to the preparation of this crop, as an economic substitute for cotton, yet with no decided success. But now, with the great scarcity of cotton, and the present stage of chemical and mechanical discovery in this country, it may be considered wonderful if American genius does not soon fully achieve this desirable end.

The culture of hemp in this country has been chiefly confined to the States of Kentucky and Missouri, and unlike any other crops grown in those States, the labor has been performed exclusively by slaves. The process of cutting and breaking hemp is regarded as more laborious than any other operation of American farming, and hence it has been confined to that class of labor. Machinery has been introduced for cutting, but it is employed but to a very limited extent. I have also witnessed the operation of machinery for breaking, which performed the work rapidly, perfectly, and with much less waste than when done by hand. Such machinery requires steam as motive power, and machinery generally is not adapted to the character of labor employed in those States, and hence its use is limited.

Hemp is one of the most profitable crops that is grown, and its growth exhausts the land less than that of any other. It may be repeated in the same field for a series of years consecutively, without material detriment to the soil; nothing being removed from the land but the lint; the leaves mostly fall to the ground in the process of handling, and the refuse, after dressing, is returned to the field in the form of ashes. Another advantage of its culture is, that from its dense growth it leaves the soil cleaner than any other crop.

Though hemp is less important as a great staple than cotton, yet whatever may be the result of certain movements in Missouri, touching the character of labor in that State, its cultivation will not be abandoned there, and will, undoubtedly, be introduced as one of the leading crops of the neighboring prairie States, where *mind*, as well as *muscle*, will come in with the aid of labor-saving engines, and render our country independent of all others in this important product. With the advantages available in these states, the manufacture of bale rope and bagging may also be introduced with profit.

American grown water rotted hemp is superior in strength, and is preferred by the Government for U. S. Naval purposes to the imported article, yet it has been able to procure but a very limited quantity, notwithstanding it has maintained an agency in Kentucky for many years for its purchase. Once introduced into the free States of the great West, and I have no doubt that with the aid of machinery, and the energy and enterprise of the people, its growth and manufacture would be found highly remunerative.

To those who may be disposed to engage in the cultivation of this crop, I will give as data for calculation some reliable statistics as to the cost of production, prices, &c.

There are several varieties of hemp grown in this country. That known as the Chinese is now most largely cultivated. It was first introduced to public notice seven or eight years ago, by William L. Vance, Esq., of Woodford county, Kentucky. A gentleman from France visiting Mr. V., spoke of this variety as remarkably productive, and on his return to Paris procured at the *Jardin des Plantes*, a spoonful of the seed, and sent them to his friend in Kentucky, where its growth has been largely extended. It requires a third more time to mature than the ordinary kinds. It is usually sown a month or more earlier than the common hemp, and is not fit to harvest until some weeks after that kind is in the stack. By growing the two kinds on the same farm, the labor of the season is materially equalized. The average yield per acre, in a good season, is from 1,000 to 1,200 pounds. I have known 1,700 pounds to be produced per acre. The fibre is extremely long, rather coarse, but very strong. Besides the common variety that has been long cultivated, another kind has recently been introduced known as the Russian. Its yield per acre is about equal to the common hemp, perhaps a little less, say in a good season from 600 to 800 pounds. The fibre of this kind is much finer than either of the others referred to. It more nearly approximates to flax in its fine, soft and glossy texture, and is well adapted to manufacture into fine fabrics, as well as into cordage, &c.

The labor of preparing the ground and sowing the seed is about the same as should be given to an acre of wheat. The regular task of cutting, is half an acre to the hand, per day; yet good hands easily cut three-quarters of an acre and more. McCormick's hemp reaper with a team of four horses, will cut eight acres per day, requiring a driver, one hand on the platform and four hands to remove the cut hemp out of the way of the machine.

The task for dressing, is 100 pounds per hand per day, but as they are paid for over-work they frequently dress 150, and sometimes 300 pounds and upwards a day.

The various processes of binding, stacking, and again spreading it for dew rotting, raking it up after rotting, and shocking it ready for the break is about the labor of three days for a single hand.

The average price for dew rotted hemp in Kentucky in 1860 was $130 per ton. In 1861 it fell to $75. In 1862 at the close of the season, the price advanced to $140 per ton. For water rotted hemp the price is considerably greater, governed in some degree by the ruling prices of the imported hemp.

The process of water rotting, after the hemp is removed from the stack, is considerably greater than to simply handle it in the process of dew rotting, but the price obtained is greater in proportion. H. P. B.

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An editor says he has seen the contrivance lawyers use when they "warm up with the subject." He says it was a glass concern, and holds about a pint.

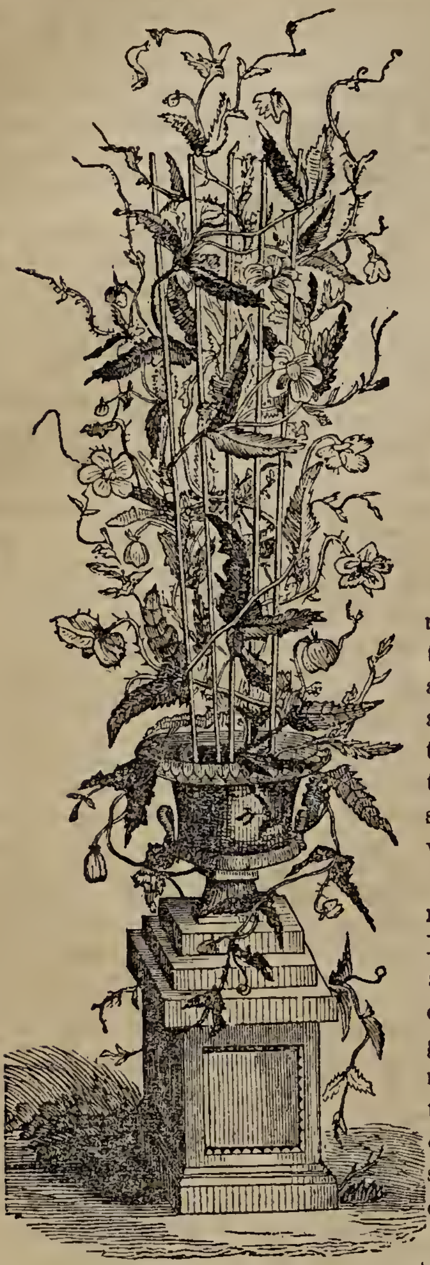

Fig. 7.

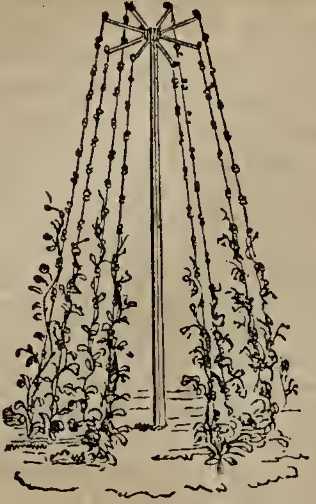

Fig. 6.

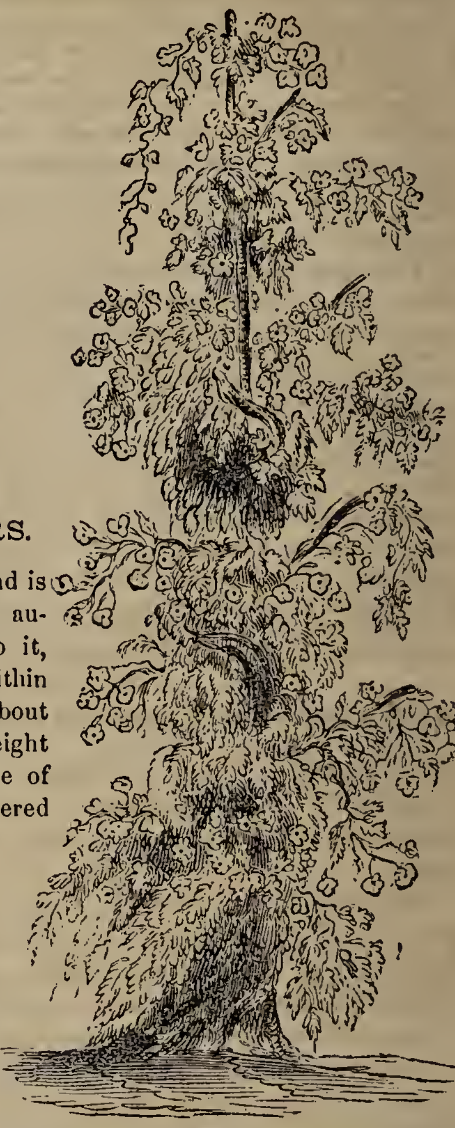

Fig. 5.

SUPPORTS FOR CLIMBERS.

(Continued from page 120.)

A rustic support of the simplest kind is made by cutting a small cedar tree in autumn, so that the bark will adhere to it, and cutting off the side branches within a foot of the stem. It should be about three or four inches in diameter, and eight to twelve feet high. The appearance of such a support as this, when well covered with verdure, is shown in fig. 5.

Supports for climbing annuals may be of less substantial structure. Fig. 6. exhibits one of a neat character, well adapted to the training of the cypress vine, or morning glory. It consits of a central upright rod, with radiating sticks at the top, from the ends of which cords are extended downwards and secured to wooden pegs at the bottom. These cords will last longer if painted, oiled or tarred.

Climbing flowers in pots may be variously supported by rods or wire structures. One of the simplest of these is represented in the annexed cut, fig. 7, which exhibits the *Loasa pentlandica* trained among vertical rods, thrust into the soil of the pot.

Climbers should be sparingly introduced into ornamental grounds, except it be in the more remote and less formal and finished portions. They give too much an heir of wildness and freedom to be adapted to the front of large residences, but for small cottages, may be placed almost anywhere, and give a beautiful appearance when trained over windows, or on latticed verandas. It should not be forgotten that to give them their best appearance, the ground should be rich, and well dug or cultivated.

SCOURS IN SHEEP.

Eds. Country Gent.—I have long known a sovereign remedy for scours in sheep, and I thought it might benefit some of your numerous readers, to make it known through the medium of the Country Gent. Take from four to six inches of a common tallow candle—our candles weigh, which we run or dip, about twelve to the pound—open the animal's mouth with the head raised, and push it well down her neck, and if other sheep are like mine, the disease will be arrested at once. It has long been known that white paper boiled in milk is a very effectual remedy for the scours in horses. So I suppose the cotton wicking given with the candle would have no bad effect. A little over a gill of melted lard will cure the blind staggers in sheep or bloat; and I think it a better remedy for the stretches than holding the sheep up by the hind legs and jerking her, as has been recommended by some writers. I never lost a sheep by that disease, and the only remedy I ever used was the melted lard.

Mt. Vision, N. Y., W. B.

A Good Way of Wiring Fence Stakes.

Anneal the wire as you would heat cart tire for setting. With a string measure around the stakes, then measure the wire, mark with a file and break it off. Put it around the stakes, bind the ends together, grasp them with a monkey wrench or blacksmith's tongs, and twist two or three times. E. A. P.

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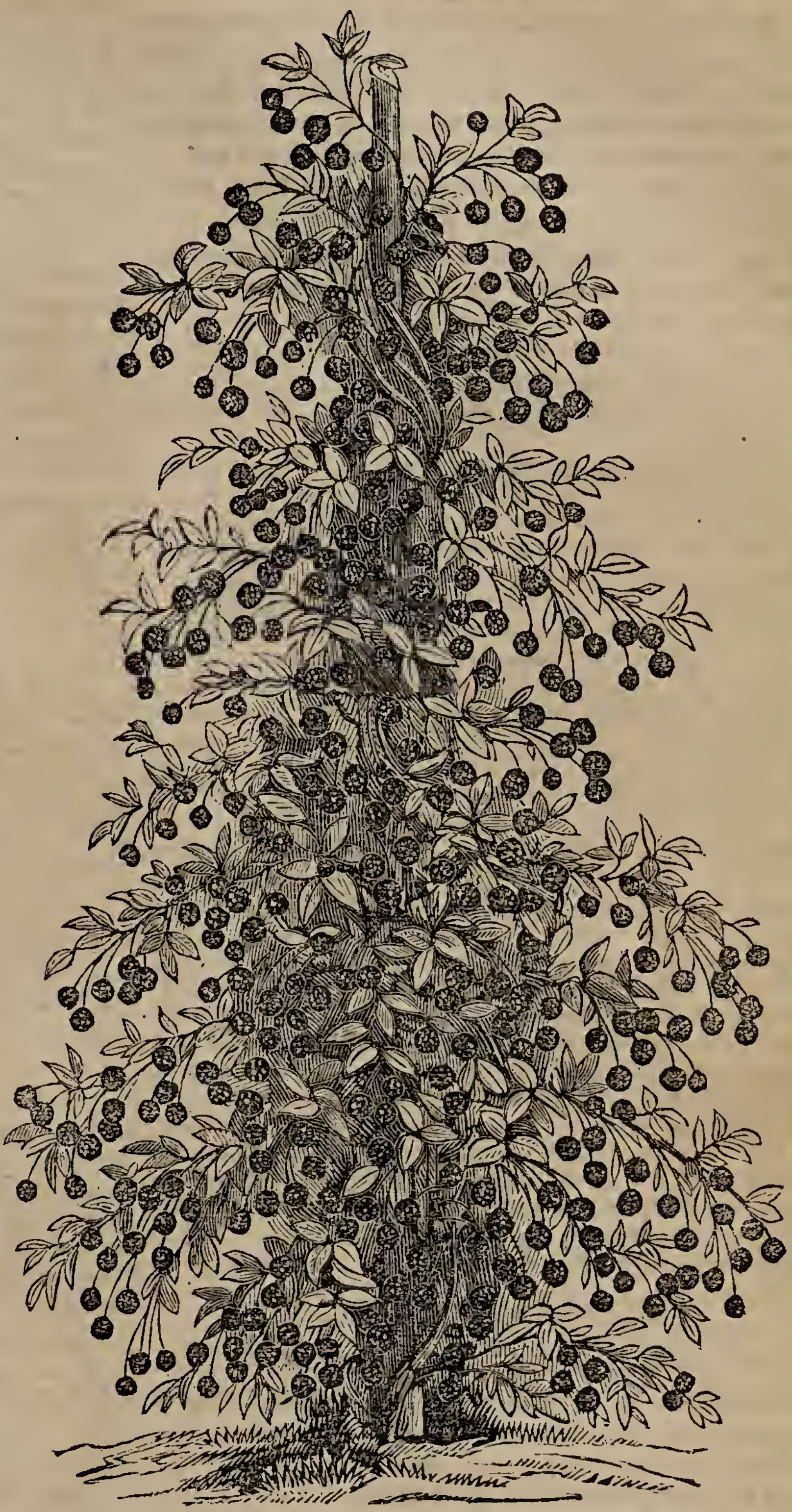
How to Destroy Cockroaches.

A correspondent of the Montreal Witness says—"Several weeks ago my house had become so overrun with cockroaches that I seriously intended leaving it for two or three nights, to give these pests the benefit of a good freeze. I happened, however, to read in the Witness that powdered borax was a cure for them. It was tried and proved efficacious. Now and again, a stray cockroach is seen, but certainly not one where there were hundreds before. Those that make their appearance have a sickly, attenuated look. Their air is so dispirited that the simile "lively as a roach" could never apply to them. The borax is used by sprinkling upon shelves and wherever the enemy "most do congregate." It is a safe remedy and one that deserves to be known."

MINER'S SEEDLING BLACKBERRY.

Mr. H. B. Miner of Honeoye Falls, Monroe Co., sends us the accompanying drawing of a blackberry plant in bearing, grown by him from the seed. "Those familiar with wild blackberries," writes Mr. M., "know that there is a low or trailing species, sometimes called Dewberry, the *Rubus Canadensis* of Linnæus, that bears fruit exceedingly rich and luscious; but the plants are very shy bearers, many of the berries are only half formed, while some plants are entirely barren. Although the bushes or vines may be quite abundant, it is not often that a quart can be gathered." He has therefore been endeavoring for many years to grow plants of this species from seed, that would retain the quality of the wild ones, with greater productiveness; and after raising hundreds, thinks he has succeeded in obtaining two that meet his wishes. "One of these is about two weeks earlier than the other, the early one being the highest flavored, but a portion of its berries are sometimes imperfect. The quality of the fruit is excellent; * * the berries a little smaller than the *Lawton*, and nearly of the same form, though perhaps a little more oblong. Both varieties produce abundant crops, many plants giving over two quarts. They ripen evenly, and therefore will not last a long time. They are gathered more easily than the raspberry, and for this reason will be a favorite with those who, while they like the fruit of the blackberry, dislike its ugly thorns."

The Trailing Blackberry has long and slender branches, that run along the ground or over any object that may be near, and root at the points, like the Black Cap Raspberry. Mr. Miner allows these to run at will until near the autumn, when, if new plants are not wanted, the points are cut off, leaving the canes some six feet in length. In the spring, a heavy stake five or six feet long, is driven into the ground, for each hill or plant, (and they may be set from three to four feet apart.) The branches are then gathered together, wound around the stake like a rope, and fastened at the top with a string. The fruit is borne on long, slender stems, which, with the foliage, make a beautiful pyramid, the berries being on the outside, and fully exposed. The next spring the old canes must be cut away, and the new shoots wound around the stake and fastened as before.



DRILLING WHEAT.

Messrs. Eds.—G. H. S., in yours of 2d April, asks if wheat will do well sown in drills like beans, beets, &c. In September, 1860, I sowed six or eight varieties of winter wheat in drills—the rows about 12 inches distant and 50 feet in length. I am satisfied the yield was much greater than if sown broadcast. The ground between the rows was hoed, and the weeds kept down. In the fall of 1861 I received a small amount of the Lancaster wheat, from Col. Boyd, of Maryland. The envelope enclosing the seed got broken, so that a portion was lost before I received it. From the seed sown, just one ounce, I harvested last July twenty ounces. We had a long spell of wet, stormy weather while the grain was in the milk, consequently the straw was some rusted, and the grains a little pinched—otherwise I think I should have gotten a yield of 25 fold. I have recently received a sample of very fine spring wheat from the Department of Agriculture, a portion of which I shall sow in drills, and the balance broadcast. This will show which yields the most and ripens soonest.
L. B.

A GOOD APPLE TREE

A correspondent of the Genesee Farmer gives an interesting account of a Greening apple tree standing in a garden in Washington county, N. Y. When it came into Mr. Cooley's hands, in 1841, it had borne only occasional crops of apples, its pruning and cultivation having been neglected. It was cared for, and given clean and frequent culture and an annual manuring. The first crop was fifteen bushels, the least quantity it produced during the next twelve years. Twice during this time it gave a crop of fifty bushels per year; in 1850 thirty-five bushels. In 1854 the place was sold, the new owner gave the tree no attention, and in 1856 it did not yield two bushels of apples, and those were of inferior quality. These facts teach a lesson the dullest cannot fail to read.

CUTTING AND CURING TOBACCO.

Messrs. Eds.—I would say to Mr. Roberts in explanation, that I had reference to the present cost of tobacco twine, such as is used expressly for hanging tobacco in the vicinity of Dayton, Ohio, where I procured mine to hang my former crop with—before the war—and cost 33 cents per pound, raw cotton being about half that price; the same twine they asked me yesterday *one dollar* a pound for in Cincinnati, and for hemp twine, such as you use, *fifty cents* a pound. At your own estimate of 8 pounds an acre the

Cotton twine would be,	$8.00
Hemp twine,	4.00
700 lath at 50 cents per 100,	3.50

The twine will answer for once using, the lath will last many years.

My lath cost me 50 cents a hundred. I hired all the work at $1 a day, whereas, had I done the work myself on rainy days, or in the winter, it could have been done for much less. Most of our tobacco raisers have quit using twine, preferring the lath, as being cheaper and better.

We use no "nails," the mistake is in the type, for it should have read *rails*, for my rails are about 45 inches apart, whereas when twine is used only about 16 or 18 inches. In regard to "fat stem," or "fat leaf," there seems to be a difference of opinion; being in a tobacco warehouse in Cincinnati a short time ago, I showed a sample to men that had raised tobacco for twenty years or more, and the almost universal answer was "that it was caused by *frost* after the tobacco was hung in the shed, but before it had cured or dried out, those leaves not being ripe when the plant was cut, and that had not the frost affected it before the leaf was cured, those leaves would have been of a greenish color." We had no rain during the latter part of the summer or fall, until in Nov., and then but little, so it could not have been caused by wet weather. I coincide with their opinion, for the plants that I cut myself, which were ripe according to your test, were *none* of them so affected, and those plants cut by my men while I was away from home—they not understanding just when to cut it—were more or less affected. I tried to cure those fat leaves by the heat of a stove in a close room, but although they got *dry* enough, the quality was no better, for the leaves had the appearance of oiled paper (transparent.)

Twenty Mile Stand, Warren Co., O. E. M. S.

SHRINKAGE OF CORN.

Editors Co. Gent.—In your paper dated Feb. 19th, on page 129, the question is asked—"What is the shrinkage of corn," and your correspondent goes on to say that some of his corn shrunk one-quarter or a little more, during ten days in the month of December. I wish to say I husked a few ears of corn about the middle of September last, and dried it in the sunshine. I then shelled it and weighed, and also measured the corn very carefully. I then spread the corn to dry, using great care not to lose any of the kernels by mice or other accident, and after eight days I weighed it again, and it had shrunk a little over one-quarter part. I then measured it and found one-quarter part by measure gone. This was September 22d, and from this date to Feb. 14th, the corn neither gained nor lost one-sixteenth part of one ounce. I intend to keep this corn another year, and see what it will then weigh.

Another experiment.—On the 17th of September last I selected from my corn-field eight good ears of corn, and they weighed on the cob 6 lbs. 3 ounces and 15-16ths of an ounce. They now weigh, (Feb. 23d,) 3 lb. 13 oz. and 15-16ths of an ounce. I also selected from my neighbor's cornfield, eight of his best ears, and they weighed on the cob Sept. 17th, 4 lb. 10 2-16th ounces. They now, (Feb. 23,) weigh 2 lb. 14 9-16th ounces, showing a shrinkage of nearly one-half, and I don't think any of the kernels are gone.

I tried one more experiment. My corn raised in 1861, was husked and put in the crib in the barn as usual. On the 31st day of March, 1862, it was threshed and I measured a half bushel of it carefully, and also weighed it carefully, put it in a bag and hung it up, and the bag has not yet been untied. I weighed it often, and found it was drying away a little every week until the 31st of May. The shrinkage was then not far from 3 per cent. or 3 bushels out of 100, in the two months of April and May. Since that time it has gained a little in weight. I intend to keep this also another year. I have one ear of corn raised in 1858; it was then 15 inches long, but it now measures only 13½ inches; it has never been weighed.

If I remember rightly, I have never seen any account of a crop of corn which yielded 90 bushels per acre or more, which was weighed or measured later than Dec. of the same year; and if it is a fact, (as the above experiments seem to prove,) that corn does shrink one-half or so in six or eight months after being harvested, then the true way to find the quantity of corn yielded per acre, is to throw off the green weight, (as the butchers do in weighing beef,) if the crop is measured or weighed in the fall. C. B. *Near Springfield, Mass., Feb.* 23 1863.

TOPPING CARROTS.

It *sometimes* happens that an apparently slovenly method of doing a thing may be the right way. A short time before harvesting carrots, I put a lot of cows on the piece half an hour each day, to have the tops eaten off, which, as grass is then short, is done effectually, even with the ground, to the great advantage of the cows, the fall labor, and no injury to the carrots—rather an advantage, because it prevents their growing in the cellar.

Plowing, spading, or any usual method may be adopted to get them out of the ground; nothing farther to be done but to pick them up and store them—thus saving much expense in raising this useful crop. L. Wells.

Brome Co., C. E.

REARING TURKEYS.

I don't propose to give anything like a recipe for doing this branch of business, as I have never been an expert at poultry raising. When a boy I used to notice that when a turkey hen, or in fact any of the fowl kind, stole away their nests, and laid and set without being molested, they almost always brought off a good brood of young, and if left to themselves, would usually rear them better than if allowed to come about the house.

I account for the difference in this way: In the first place their eggs are not hurt by being handled, and as soon as they are done laying, they go immediately to setting, and further, when nesting away from other fowls they are not as liable to be overrun with vermin, as when nesting about the hen-house or where fowls are constantly sitting or nesting. If hatched away, they are usually a little timid for a while, which prevents them from getting lousy from contact with other fowls, &c. My practice with turkeys the last few years is to set a part of the eggs under hens, and a part under turkeys, about the same time, and when hatched give them all to the care of the turkey hens to raise, and let them have their liberty, unless the weather is very wet. This remark applies to the first laying in spring; the second laying they usually lay no more than they can cover themselves, and are allowed to sit and rear what they can.

Many object to raising turkeys, thinking they are more destructive than other fowls. I think this is not the case, all things considered. It is true they will use up cabbage and tomatoes if allowed among them. So will other fowls. There is one advantage in rearing them, they get a large amount of their feed farther from the barn than other fowls, a large amount of which would otherwise be wasted but for them; they will destroy more grasshoppers, and other insects that are a pest to the farmer, than any other fowl; and, last but not least, they give good cheer to many a holiday repast. I can't understand why the farmer cannot raise one hundred pounds of this kind of flesh as cheaply as any other meat used in the family, and certainly they do their part in furnishing the cash to fill the pocket. A. Moss

OSAGE HEDGES.

You would greatly oblige a subscriber, by giving some practical hints in your valuable paper, relative to the management of Osage Orange Hedges—how to prepare the ground—what the proper age of plants—how close should they be planted in row, and which is the best, single or double rows? J. W. G.

Adams Co., Pa., March 7, 1863,

The Osage plant requires a dry subsoil, and if it is not already dry enough, an underdrain should be placed nearly under the line of hedge, or within a few feet of it; this not only prevents the plants from being lifted or killed by frost but renders the hedge hardier, and better able to withstand winter. If the soil is not wet a broad plowed ridge 10 or 12 feet wide will answer. One year plants are about as good as any—two year require more care in setting, and make a hedge a little the soonest. Gaps are the worst thing for a hedge—therefore let the buds swell a little before setting, that all may be seen to be alive and vigorous. One great secret of success is constant, clean cultivation on both sides 4 or 5 feet wide. After growing a year or two, cut down freely, and treat as is usual for cutting back hedges. Single rows are better than double, as the young hedge may be more easily cultivated and cleaned. Six or 8 inches is a common distance but some prefer a foot or even a foot and a half, believing that the plants with more room will be much stronger, and by proper cutting fill up the spaces well We are inclined to think this is true; but experiments are needed side by side, for a term of years, to prove the relative value of each mode.

HOW TO HAVE CLEAN GARDENS.

Messrs. Editors—In Co. Gent., page 91, S. W. Hall says, "Why the weeds in my garden have actually forced me to abandon it and plow it up to kill the young grass, while my fields are clean." And, "four dollars will do all the hand work necessary on an acre of carrots."

It seems to me marvelous that the skill that produces such results in the field, should be driven from the garden by weeds. But judging from my own observation, his is not a solitary case, and I propose to inform all such unfortunates, how to conquer the weeds instead of being conquered by them. Many years since my own garden had become by neglect (and by the way; farmers are very apt to neglect their gardens,) so foul as to require more labor than the vegetables raised on it were worth. After some reflection I came to the conclusion that such a state of things was unnecessary, and that hereafter no more foul seed should be raised on it, or carried on it with manure. Accordingly for convenience in hoeing I planted most of the vegetables in drills, and buried all the weeds of much size between them. Well, by great labor I kept them under that season, but the next summer there was not one weed less than usual. This I had expected, knowing that small seeds may lie buried an indefinite length of time, and yet vegetate freely when brought near the surface, so as to be exposed to air and heat. After the second summer the number began to grow small by degrees and beautifully less, until in a few years the weed crop was among the things that were, and since then two or three hoeings in a season are all that are required to keep them under, although more frequent stirring of the ground is beneficial to the vegetables. From the aforesaid experience, I deduce the following rules:

First, hoe early. Weeds when first up are very tender, but when large, many will live unless buried, but if buried when fresh will decay before another hoeing becomes necessary. Continue the hoeing through the season, or as long as weeds grow. A few weeds allowed to go to seed, will stock a large garden. Purslane in particular, one of our most troublesome garden weeds, has a multitude of seed, and ripens it while the capsules are still green, and many a cornfield has been stocked with it by manure from the hog-yard.

Second. Put no yard manure on the garden that has not been thoroughly fermented. Hen manure, guano, phosphate of lime, ground bone and wood ashes are all good, but poudrette is better than either of them singly, and every family should manufacture their own. Nothing more is necessary than to mix *intimately* with the contents of the privy a sufficient quantity of some suitable absorbent, such as coal ashes, clay, swamp muck or charcoal dust, which should be dry, and are improved by the addition of gypsum. To facilitate the operation, I have so constructed my privy that whenever a lid is closed a given quantity of absorbent is deposited underneath, and besides answering the purpose intended, it operates as a disinfectant, allaying the unpleasant odor of the premises to such a degree as in my opinion to pay for all the trouble and expense, if that alone were the object. W.

Improvement of Vegetable Productions.

Messrs. Editors—That the various productions of the vegetable kingdom are susceptible of almost unlimited improvement, by judicious and continuous selection and propagation of superior seeds and plants, is as true as that the valuable characteristics of all our domestic animals have been attained by requisite care in breeding and management for many years, and is an object whose development would equally, if not more extensively, promote the agricultural and general interests of any people or country.

While the assiduous efforts of a few have resulted in the production and dissemination of many new and rare vegetables, fruits and flowers, the general and concurrent efforts of agriculturists would achieve incomparably more valuable modifications and improvements of the manifold productions of the soil.

This improvement does not consist only in the production of *new varieties* by hybridism, but *especially in the modification and improvement of the great variety now under propagation.*

My rule is explicit, as follows: Select seeds or plants for reproduction which possess characteristics in point of productiveness, earliness, large size, good quality, or any other qualification desirable to perpetuate, give thorough cultivation on rich soil, and you are on the road to *improvement.* Learn the rest by experience.

Yaphank, Suffolk Co., N. Y. ISAAC T. WHITBECK.

Fence Posts---Time of Cutting and Setting.

On three occasions, in different years, I have cut second growth White Ash trees in June or July, when the bark would peel off very easily—took off the bark and set them immediately, and in each case the posts have lasted 12 or 14 years. I have also cut the same kind of timber in the winter, in several different seasons, and set the posts the next spring, and I think I have never in these cases, had them last over five or six years. They generally rot off in three or four years.

Query.—Would the result be similar with any other kind of timber? Will those who have tried it answer?

East Dorset, Vt. D. G. W.

Good Substitute for Coffee

Messrs. Editors—On Long Island the following has reputed excellence as a cheap, palatable and healthful substitute for coffee:

Wheat bran moistened with warm molasses, then dried and browned by the fire. Boil and serve as other coffee, but without further sweetening.

To those who are dyspeptic, the aperient property of the bran would be very beneficial. Isaac T. Whitbeck.

The True Cause of the Potato Disease.*

BY PROF. S. W. JOHNSON.

Having endeavored to convey to the readers of the Co. Gent., the well and repeatedly observed facts upon which is based the conclusion that the fungus designated by botanists as *Peronospora infestans*, is the immediate and only cause of the potato disease, it remains, in the next place, to point out the harmony of this conclusion with the facts familiar to every one who cultivates potatoes, and finally, to indicate the means of checking or suppressing the ravages of the disease as far as this is, at present, practicable.

It is universally observed that the leaf-blight and the rot attack the potato most destructively in localities where the atmosphere and the soil are most liable to be impregnated or saturated with moisture. Hence we find that low lands, lying along a stream and sheltered by forest or hill, are visited by the disease when more elevated and airy positions escape. Potatoes on a hill are often unaffected, while those of the same kind in a valley a few hundred rods distant, are totally destroyed. In dry seasons, especially in those which are dry in August and September, the disease is less prevalent than in wet years. When sultry, showery weather succeeds warm and dry days, or when by a storm the air is rapidly cooled, so that heavy dews or fogs supervene, and evaporation is checked, it often happens that a field, healthy to the ordinary observer at night, is black and ruined in the morning.

This influence of moisture may be exhibited in the following manner, at any time when potato tops are at hand, on which, though their appearance is fresh and healthy, by close inspection may be found minute patches of the fungus. Two portions of such infected foliage are taken, and the stems of each placed in the neck of a glass or bottle containing water. One portion is exposed freely to the air, the other is covered with a bell-glass. Other things being equal, it will be seen in these few hours that while the exposed foliage has not perceptibly altered in appearance, that which is under cover exhibits a large growth of the brown fungus-stains, and in a day or less, is black and blasted.

De Bary found that very high temperature is of less influence in developing the fungus, than an atmosphere saturated with moisture. The *Peronospora* grew with equal rapidity at temperatures of 65° and 80°, when the air was fully charged with vapor.

The fact that the conditions which develop the potato disease are precisely those which produce the fungus, is in harmony with and a consequence of the theory we believe to be the true one.

J. G. W. of Utica, in the Co. Gent. of Feb. 19, attacks the fungus theory with great spirit and vigor. He exerts considerable rhetoric against those "who deal with nature under bell-glasses," makes fun of trying an *experimentum crucis* on a piece of dead and cut potato, and throughout so travesties the fungus theory, or rather the plain statements on which it is based, that they are absurd to anybody. But J. G. W. offers no *facts* to rebut this theory. He does not tell us of a single observation which disproves the statement that the fungus always *precedes* the leaf-blight and the tuber-rot, and that the leaf-blight and tuber-rot always *follow* the fungus. He does not stop to reflect that this statement is the result of oft-repeated observations made during six years by Speerschneider, De Bary, and Kulm, all skillful physiologists. He offers no evidence that an *experimentum crucis* cannot be made elsewhere than under the open sky. Through half his article, while he ridicules effectively, he does not reason at all, and when at last he begins with logic, it were better had he kept to rhetoric.

"As if the world did not know," he says, "what evidently the German did not know, that if two rows of potatoes planted side by side—nay of two potatoes planted in the same hill, one of a delicate and the other of a hardy variety, a Blue Mercer and a Garnet Chili for example, the one shall be perfectly sound and the other perfectly rotten." This may be a stubborn fact for the fungus theorizers. But it is not more inexplicable than some others known, very likely to the aforesaid German. I have seen, of two rows of potatoes planted side by side—nay of two potatoes planted in the same hill—one perfectly sound and the other perfectly rotten, and both of the *same variety!* It is not uncommon that a streak or well defined patch in a field is diseased, while the remainder is what would be called by most out-of-door philosophers, perfectly healthy.

It is very common to dig from the same hill sound and rotten tubers, and I have dug from a hill an upper stratum of rotten potatoes, and a lower one of sound ones. I can't conclude, as J. G. W. does, that "in these cases the sound potatoes stood the same chance of meeting the fungus spores in their descent, as the decayed ones." If an angler by throwing his hook into the stream, catches a shiner, it does not necessarily follow that every time he throws it in he will take a fish, much less that he will shortly depopulate the brook. Where he takes shiners in quantity, he may fail to secure a solitary trout, although the latter fish is abundant, and when in the mood is not averse to bait.

There is no kind of fish but what will take a bait, and it is equally true that there is no kind of potato that is not more or less susceptible to disease. The Garnet Chili and some others of Mr. Goodrich's seedlings have exhibited a great power of resistance to the rot, but even J. G. W. does not affirm that this variety is totally exempt from disease. J. Talcott, who cultivates the Garnet Chili at Rome, but a few miles from Utica, reports that with him they have rotted for three years, last year 20 bushels out of 180, "being affected more or less, so that they are not fit to use."

In Germany Dr. Klotzsch in the year 1850, produced a hybrid seedling by impregnating the flower of a "right vigorous" potato with pollen from the *Solanum utile*, a species differing from the ordinary potato *Solanum tuberosum*, in having an aromatic fruit (seed ball.)

This so-called Bastard potato had hardy qualities similar to those possessed by Mr. Goodrich's seedlings. In 1856 it was entirely unaffected at Berlin, when all other varieties were totally overpowered by the disease. Dr. Schacht, the eminent Botanist, says of this potato that "the foliage is firmer and the cuticle of the stem and leaves, which in the common potato is extremely delicate, is thick and beset with wart-like prominences. The tubers have extraordinary solidity, and the cell partitions are much thicker and stronger than in the common potato."

Here we have an example of a potato capable of withstanding the rot, when other kinds were badly damaged, and the reason of its hardiness is to be found in the great resistance opposed by its firm tissues to the boring of the fungus. Dr. Klotzsch was of the opinion, when he produced this seedling, that the renewal of constitution occasioned by raising from seed, was the secret of its immunity from the rot, but this idea had to be abandoned, for in 1856, Dr. Ludersdorff informs us he saw this potato infected with the disease. In Germany other kinds of potatoes are known, viz.: Ockel's Rio Frio, the Onion potato of Saxony, and the Green or Heiligenstadt potato, which have shown an uncommon power of resisting the rot. The last mentioned is recommended as especially adapted to wet and heavy soils; but is unfit for table use. De Bary however affirms for Germany what we have yet to learn to be untrue for this country, that no kind of potato is capable of absolutely withstanding the disease. Those varieties which, from the fact of being thick-skinned or deep-rooted, are less liable to destruction, do nevertheless succumb to the rot, under circumstances that are eminently favorable to the development of the *Peronospora.*

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* Continued from page 141.

The theory that the grape and potato disease is the result of a stagnation of juices, resulting from cold damp, or hot damp changeable weather, is as old as Hales and Parmentier. The idea that it attacks some varieties more easily than others, because these have become enfeebled by irrational culture, or by excessive tuber propagation, has had its vigorous advocates in this country and abroad. Both theories are wanting in any real support. The stagnation of juices is a mere intangible fancy. No one can define it. The circumstances which are said to produce it, often do not. If a close steaming atmosphere stagnates juices, why are hot-beds and hot-houses tolerated for an instant? If stagnation induced in enfeebled plants is the cause of the potato disease, why did not all the old fashioned enfeebled varieties suffer at once and equally? If the Mercer and Peach Blow are enfeebled, how is it that superb crops of them are yearly obtained? The "constitutional weakness" is simply a phrase, by the use of which we conceal from ourselves and our neighbors the extremity of our ignorance. The sole evidence of this weakness is the fact that potatoes rot. But if a variety is enfeebled, the *variety* should perish, or if it is renewed by proper treatment, it should then resist the disease. It is not physiological to see a large crop of fine tubers one year, a crop of diseased ones the next, and a large crop of sound ones the third year, propagated on the same farm, from the same parent tubers, and of the same enfeebled variety.

Why should the enfeebling of hundreds of varieties of potatoes, which for generations had invariably maintained their excellence and given satisfactory crops, have culminated in disease in the year 1843—the crops being still admirable as to quantity in that very year?

The theory that continued propagation from the tuber weakens a plant, is not sustained by any direct observations or experiments, but is arrived at in the following circuitous and illogical manner. The fact is observed that potatoes rot, grapes mildew, and other plants suffer from blight or rust. Without any adequate study of the disease itself, the hypothesis No. 1 is set up that these plants suffer because they are enfeebled and incapable of resisting atmospheric vicissitudes which do not disturb healthy plants. To account for this *imagined* debility of constitution, hypothesis No. 2 is invented, viz: that propagation by tuber, layer, cutting, bud or something else than seed, weakens a plant. The whole theory is baseless.

I am aware that certain phenomena have long been currently accounted for in this manner. The wretched state of the Lombardy poplar in this country, is attributed in our older botanical works, to the fact that we have but one sex of that diœcious tree with us; no seed is therefore produced, and propagation being continued by cuttings, the tree is asserted to have "run out." This doctrine has been accepted without adequate criticism, and is opposed by all the experience of the fruit and flower culturist.

What variety of grape, rose, dahlia, or other plant that has been continued in existence for years, or even centuries by other than seed propagation, has run out or begun to run out from that cause? The advocates of the theory of "constitutional weakness" may be safely challenged to produce a single fact that unmistakably sustains their doctrine. The failure of the Garnet Chili to withstand the rot, has settled the matter for Mr. Talcott, and ought to for J. G. W. The latter will allow me to say that if anything that he or I have caused to be printed in the COUNTRY GENTLEMAN, deserves to be characterized as "altogether too visionary, fanciful and far-fetched," or as "arrogant, not to say absurd," to my mind it is that pet theory of his, the distinguishing character and peculiar excellence of which is "constitutional weakness,"—the Pelion of unreason piled on the Ossa of conjecture!

The doctrine we combat, not only lacks the merit of truth, but it has all the virus of falsehood. It not only leads to wrong conclusions, but it leads away from correct results. Propagation by tubers, layers, offsets and buds is not only not enfeebling, but is as natural and therefore as healthful under proper conditions as reproduction from seed.

More than this, the vine dresser and horticulturist know that these methods of propagation, skillfully combined with scientific culture, are in many cases means of attaining excellencies of character and constitution that mere seed reproduction does not readily admit of.

We must not suffer ourselves to be misled by apparent or shallow analogies. The bane of vegetable physiology has been, and to a great degree still is, the assumption that plants are in this or that respect like animals. The "circulation of the sap," its "elaboration in the leaves," the "stagnation of juices," are specimens of ancient speculation that infest our text-books in the school, and our hand books in the orchard or vinery.

They are the scape-goats of learned ignorance, the last resort of wisdom that is never at a loss to render a reason. They serve the pseudo scientific cultivator the same office which Semmes' Hole performs to the stay-at-home Arctic Explorer—are an inaccessible and bottomless pit, large enough to engulph all difficulties.

The other objections raised by J. G. W. to the fungus theory, remain to notice. The first difficulty he suggests is, that two kinds of potatoes are unequally affected. We explain this, as has been intimated, by the fact that the cuticle and cell tissue of the hardy kinds are thicker and denser than in the delicate varieties, as Schacht has observed in case of Klotzsch's Bastard.

The second difficulty suggested by J. G. W. is, "that potatoes grow and are dug and are rotten in seasons so dry that the earth is never wet down so far as the potatoes in the hill. Especially does this absence of wet often exist during the interval between the appearance of the disease upon the leaf and upon the tuber." De Bary distinctly states that the spores penetrate a *moderately* wet soil. A slight rain or heavy dew succeeded for some time by cloudy close weather, which hinders the drying of the surface, probably provides the conditions necessary for the fungus to reach the tubers. If the fungus is *in* the tubers, it can't well be doubted that it in some way reached them, although the precise mode or conditions of access be imperfectly understood. The fact which I have observed, that deep-lying tubers may be perfectly sound, while shallow ones of the same kind are entirely rotten, accords with the supposition that the spores penetrate easily to some depth, but do not pass beyond a certain limit.

As to the rotting in the cellar, of potatoes which at the time of digging were *apparently* sound in tops and tubers,—this would happen if the plants were moderately infected at harvest, and then were carried into a damp cellar, especially if the tubers were thrown into large heaps or placed in deep bins. The fungus spores did undoubtedly remain concealed and inactive in the tubers, until placed in the cellar. One or two other questions remain which I do not attempt to answer, as the facts implied in the questions, upon rigorous examination, might not be found to exist.

Sheffield Scientific School of Yale College, March, 1863.

[For the Country Gentleman and Cultivator.]

Four Months Experience in Poultry-Keeping, by a City-bred Lady.

We give the following as the result of keeping poultry, as experienced by a city-bred lady, on retiring to the country :

"We commenced," said she, "stocking our poultry-yard in July, by purchasing twenty-eight chickens and twenty ducks, for which we paid sixteen dollars and twenty-eight cents. Some of them were too young for the table at the time we purchased them, but were all consumed at the end of four months, with the exception of seven hens and a cock which we saved for stock. Thus, in the time I have mentioned, we killed twenty ducks and the same number of fowls. These we entered in our house expenses a $1.37½ a couple, though they were larger and better than could have been purchased in the New-York market for $1 75.

"We must now proceed to reckon what they cost for food, and then see if any balance remained in our favor. They consumed during the time they were getting in order for the table, three bushels of corn at one dollar per bushel, one and a half hundred corn-meal at one dollar and thirty-three cts., and one hundred weight of broken and refuse rice at three dollars.

Cost of corn and meal, was.	$5.00
Broken or refuse rice,	2 00
Fowls and ducks,	16.58
Total,	$24.58
Ten couple of ducks and the same number of chickens would amount to,	$27.50

"Thus at first sight it would appear that we gained but $2.92 by four months trouble in attending to our fowl-yard; but we have now to take from the purchase money the value of the eight saved for stock, and likewise deduct from the food they consumed in four months. Now these eight were large fowls when bought, and worth fifty cents each. We must allow for their feed at least one-fourth part of that consumed. We have then to take off four dollars from the first cost of the poultry, and two dollars from the value of the food, which will add six dollars to the two dollars and ninety-two cents, leaving on the whole transaction a profit of $8 92.

"We still have another small item to add One of the hens we saved, commenced to lay, and by the time the four months were expired, had given us three dozen eggs, which at that time of the year were not to be had short of twenty-five cents the dozen; so that we have to add seventy-five cents to $8.92, making a clear profit in four months of $9.67.

"It was a source of great amusement to ourselves, as well as to the children, by whom it was always considered a treat to run in the field or yard, with corn in their little baskets to feed the little 'biddies.' When we first had the poultry we kept them in the stable yard, but we soon found they did not thrive; they had been taken from a farm where they had a free range of the fields, and drooped in confinement and from want of the grass, worms and insects, which they had been accustomed to feed on. We had a house constructed for them in the lot nearest the house, and soon found that they throve much better, and did not require so much food. We had no trouble with them, except in seeng that the house was cleaned daily. Through the fields flowed a stream of pure water; consequently our ducks throve well. The meal which figures in our account was for them; they used to have a little mixed in hot water once a day. We soon left it off, for we found the rice boiled in skimmed-milk was equally good for them, and much cheaper.

"Poultry of all kinds are very fond of offals of the table; the children were always told to cut up pieces of potatoes, greens or meat, which they might leave on their plates at the nursery dinner; and when they were removed to the kitchen they were collected together and put in with the rice for the chickens. We always fed them three times daily; in the morning with rice, in the middle of the day with the scraps, (offal,) and in the evening they had just as much corn thrown to them as they cared to pick up eagerly.

"We have heard some persons complain of the great expense attending a poultry-yard, but this arises from the person who has the charge of them throwing down just as much again corn as the fowls can consume. We ourselves often saw corn trodden into the earth, if occasionally we left the task of feeding to the lad.

"It must, of course, be impossible for a lady to go into the field for the purpose of feeding the fowls; the only plan to prevent waste is to have a meal-room in the house, and as much given out daily as is considered necessary for the consumption of the poultry. This is some little trouble, but will be well repaid by having at all times cheap and wholesome fowls, etc.

"We have hitherto only spoken of the profit which may be obtained from a poultry-yard, when the stock is purchased. The farmer from whom we bought ours, of course gained some money by their sale. When we raised our own chickens from our own eggs, we received much more emolument from our own yard; but it is my purpose to show how a person should *commence*, who leaves a city for a country residence." C. N. Bement. *Bennington Centre*, 1863.

Waterproofing Boots and Shoes.

The Irish Farmer's Gazette gives the following recipe :—"Melt over a slow fire 1 pint of linseed oil, 3 oz. bee's wax, 3 oz. Venice turpentine, and 1 oz. Burgundy pitch. Warm the shoes before the fire, and rub them well with the above mixture, warmed till in a semifluid state, with a painter's brush, repeating it till the leather will absorb no more."

Sorghum Syrup for Cooking.

In making ginger bread with sorghum molasses, mix the soda with the molasses; then warm, stir till light, then mix with flour in the usual way, which will make light bread.

A SUBSCRIBER.

Excellent Whitewash.

As the house cleaning time will soon be here, it may not be amiss to say a few words in regard to whitewashing. There are many recipes published, but we believe the following to be the best that can be used: White chalk is the best substitute for lime as a whitewash. A very fine and brilliant whitewash preparation of chalk is called "*Paris White*." This we buy at the paint stores for three cents a pound, retail. For each sixteen pounds of Paris White, we procure half a pound of the white transparent glue, costing twenty-five cents (fifty cents a pound.) The sixteen pounds of Paris White is about as much as a person will use in a day. It is prepared as follows :—The glue is covered with cold water at night, and in the morning is carefully heated without scorching, until dissolved. The Paris White is stirred in with *hot* water enough to give it the proper milky consistency for applying to the walls, and the dissolved glue is then added and thoroughly mixed. It is then applied with a brush like the common lime whitewash. Except on very dark and smoky walls and ceilings, a single coat is sufficient. It is nearly equal in brilliancy to "zinc white," a far more expensive article.

SORE MOUTH IN SHEEP.

Messrs. Editors—In answer to an inquiry in a late number, respecting the sore mouth in sheep, as far as I can learn, it is what I call canker in the mouth. What is the cause I cannot say, but should not think buckwheat straw could be the cause of it, although I should prefer not using such for litter. I had a few cases of canker in the mouth in the fall of 1862—got it by taking ewes into the ram. My remedy is to get a little alum and dissolve it in pure spring water, and with a sponge, or a small portion of cloth, dress the parts affected twice a day, and I soon found it to effect a cure.

I believe it is a little contagious, but at the same time do not think it a dangerous disease. It annoys the sheep very much if not stopped in time. Jos. Kirby.

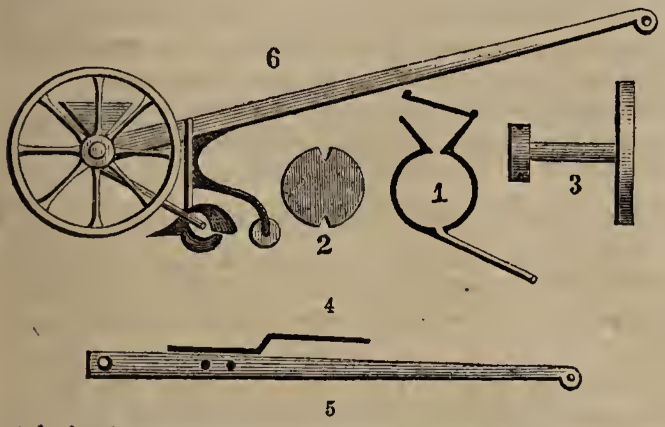
Norval, C. W.

Preparing Potatoes for Planting.

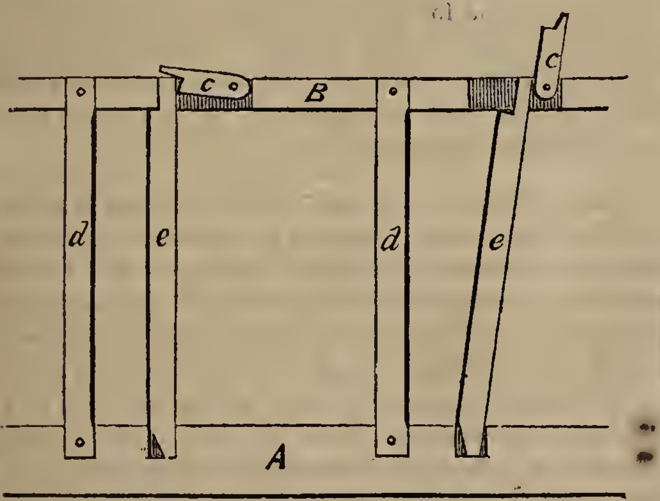
Messrs. Editors—A friend of mine has already begun to cut potatoes for planting. He cuts them in small pieces, one or two eyes on a piece—spreads them so they can dry a little—then puts them together, and waits for planting time. I don't know whether it is a good way or not, but one thing I do know, that he has very good success in raising potatoes. He is an advocate for early digging. B. J. Campbell. *Glen Haven*, *N. Y.*

A SIMPLE SEED DRILL.

Messrs. Tucker & Son—I here send you a rough sketch of a seed drill of my own construction, which is well adapted for planting the seed of the French turnip, and by a slight change of the seed dropper, will do for beans, corn, and such like, and is so simple any one of common ingenuity can make one in five minutes. No. 6 represents the machine complete. No. 1 is a tin band one inch broad, with hopper and seed spout soldered to it. No. 2 is a wheel with two holes of a triangle shape placed directly opposite one other, which wheel fits accurately in the tin band. No. 3 is an end view of driving wheel, shaft and dropping wheel. No. 4, strip of hoop iron screwed to side of No. 5, to form a fork for wheel to run between. Dimensions of driving wheel 12 inches; dropper 2 inches; length of handle 4½ feet. The machine made of this size drops a hill of three seeds every eighteen inches, but it can be made to drop as often as desired. Be careful not to get the holes in the dropping wheel too large—three seeds is sufficient. When planting prepare the ground same as for corn—mark one way two feet apart, then run the drill through the mark.



Schenectady Co., N. Y. N. J. CLUTE.



STANCHIONS FOR CATTLE.

Messrs. Editors—I send you a sketch of stanchions differing from any I have seen in print, in having the movable slat so that it can be taken entirely out, making it very handy in case of oxen or steers with wide horns.

Description.—The sill A is 9 inches high and 7 inches wide. The mortices in it are 1½ by 3 inches, and 4 inches deep. The horizontal top stick B. is 7 inches wide, and 3½ inches deep, the bottom being 4½ feet from the floor. The slats, *d.* and *e.*, are 1½ by 3½ inches, round on the edge. The loose slat *e.* has the bottom end chamferd off where it goes into the mortice, so as not to bind when opening; the upper end has a shoulder of 1 inch on the inside edge, to keep it in place when shut. The mortice in which the slat *e.* and latch *c.* work is 12 inches long, and the latch is 1½ by 3 inches; the notch 2 inches. The loose slat can be taken entirely out of the lower mortice to accommodate cattle with large horns. The space between the stanchions to be boarded up. Width of space for the cattle's neck, 7 inches.

Saratoga Co., N. Y. L. O.

PRUNING THE GRAPE.

I propose to plant a few grapevines this spring and had intended to have trained them on the renewal plan, until I read an article in the Gardener's Monthly for Jan., from Wm. Bright, in which he states that the renewal system (which he has so strongly advocated and practiced) is a failure.

I have taken this liberty to bother you with a few inquiries, (for I know of no one in whose opinion I have more confidence,) which I should be pleased to have answered through the columns of the next number of the Co. Gent.

Does Mr. Bright refer to glass or out-door culture, or both?

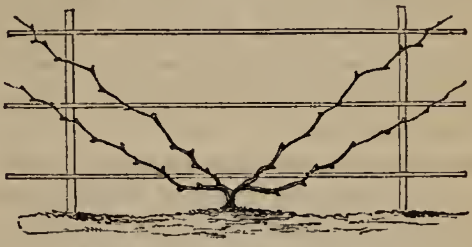
Is his opinion that of vine growers generally?

What is the short spur system?

What mode of training would you advise?

Fulton, N. Y. H. THOMAS.

Bright terms his mode of training the *dwarf* renewal system. This does well for pot culture, or for the modification of pot culture in brick compartments—which is an excellent way of raising exotic grapes in houses, provided double or triple the usual amount of labor can be expended upon them. But it is entirely unfitted to out-door culture of American varieties. They will not bear such continued and severe cutting with so small an amount of growth. Perhaps some of the smaller and short jointed native sorts might succeed better than the Isabella, which we think will succeed best if subjected to some modification of fan training. The form very commonly adopted by many, of horizontal arms and upright canes, is more distorted from nature, and the upper part of the canes gets too much sap at the expense of the lower. The annexed figure of a young vine exhibits in substance something of the form proposed. The canes may be increased as it becomes older and may be cut back only part way to the central stem. Short spur pruning is where but a few inches are left of each shoot, instead of one to two or three feet.



Modification of Fan-Training.

PARING AND BURNING.

At one of the recent agricultural discussions at Boston, several of the speakers remarked on this subject. Mr. Howard thought paring and burning might be resorted to in some cases with advantage, particularly on clay soils. He cited instances within his observation, where great benefit had been derived from burning. Mr. Tower of Lanesborough, said that this process applied to swales containing considerable vegetable matter, was thought a good way to improve them. Mr. Hubbard of Sunderland, stated that some swampy grass land had been made to produce good grass by burning off the surface and then applying sand.

THE CULTIVATOR.

ALBANY, N. Y., MAY, 1863.

☞ The preliminary arrangements were last week completed between the Executive Committee of the New York State Agricultural Society, and the citizens of Utica, for the holding of the next State Fair at that place, Sept. 15–18, 1863.

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☞ In the Second Annual Report of the Trade and Commerce of the city of Albany, for the year 1862,—for which we are indebted to Wm. Lacy, Esq., Secretary of the Board of Trade, we note one fact to which the attention of our farmers should be directed. Albany has long been the great Barley mart of the country. In the Report of the Board of Trade for 1861 (which Mr. Lacy also sends us,) it was stated that the receipts of Barley for that year at this point, were 2,596,700 bushels, of which *less than* 700,000 *bushels were grown in the State of New York.* In 1862 the crop in this State shows a still farther reduction: Out of 2,814,700 bushels received here, only about 500,000 were produced by our own farmers. Why should they abandon its culture thus largely to the Canadas, from which our largest quantities are imported? Thus last year there were received at Whitehall and Oswego, 1,659,000 bushels almost wholly the production of the two Provinces, against 662,000 which came mostly from the Western States, and about half a million bushels, as already stated, the growth of New-York. The question of increased attention to Barley culture is certainly worthy of agitation in this State, especially at present rates.

The aggregate quantity of Barley reported sold at Albany in 1862, was 1,737,400 bushels, of the value of $2,024,217, an average price of $1.16 per bushel—against an average price for the whole reported sales in 1861, of 68½c. per bushel,—in 1860 of 77¼c. per bushel, and in 1859 of 78c. per bushel. "Dealers look in vain," says the Report of 1861, for large supplies of Two Rowed Barley from Madison and Jefferson counties. The close of seasons years ago, was accompanied by large supplies of this description from those counties." Can any one enlighten us as to *why* this change has taken place? Is grain of other kinds grown to better advantage? Has the dairying interest driven out Barley raising? Or was it injudiciously grown year after year upon the same soils, until those soils became less productive, and farmers would not take the trouble to bring them "into heart" again, or to try it in other fields?

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☞ California, it appears, has reached a point at which Australia found herself at one time, as regards the production of Cattle. They have increased to a number beyond the wants of the State. A convention of Stock Raisers was held lately at San Francisco, to recommend some plan of relief, and a committee appointed on the subject submitted the following suggestions: After estimating the number of Cattle in the State of California at 1,800,000, producing an annual increase of 600,000 head, they state that the consumption, as near as it can be ascertained, is only about 400,000 head, and that there is thus an annual surplus of one-half more than the consumption; and the only way of avoiding a continuance of such a surplus, being the reduction of the number of Cattle kept, they urge

"The establishing of metanzas in the various counties, for the purpose of slaughtering a certain (say thirty-three) per centage of all the brood cattle of the age of three (3) years and upwards, for their hides and tallow, and such other portions of the bullock as may command a market.

"Secondly, the spaying for two or three successive seasons, an equal per centage of all brood stock under the age of three (3) years—or what will bring the same result, the castration of all, or at least a very large portion of the inferior bulls."

The committee submitted for the information of the convention, the following facts in relation to the slaughtering of cattle (in best condition) for hides and tallow:

Each bullock will yield on an average, one hundred (100) lbs. of tallow, worth in this market 7 cents per pound, ...	$7.00
Average weight of hides, 27 pounds, at 15 cents, ...	4.05
Tongue, dried beef, horns, and brush, say, ...	2.00
	$13.05
Deduct expenses of slaughtering, packing, &c., ...	2.50
Total nett, ...	$10.55

"About 75 per cent. more than the rancheros realized for their beef cattle the past season, which is estimated not to have exceeded $6 per head."

If shipped to New-York, it is calculated that the returns would be enough larger than when tallow, hide, &c., are sold in California, to net a somewhat larger return, and "there are beside portions of the beef which could be profitably salted."

The convention was to meet again Feb. 11th, and in the interval efforts were to be made to secure the formation of a Joint Stock company, which should undertake the erection of the "Metanzas" in different counties. Of this second meeting we can find no report in our exchanges.

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Bliss' New Catalogue.—B. K. Bliss' new catalogue of seeds, (Springfield, Mass.,) which has just appeared, is not only a model of its kind, for neatness and order of arrangement, but for the great amount of information it contains in relation to the character of flowers and vegetables and their management. It is comprised in 84 very closely printed pages, and cannot fail to be of great value to all amateur cultivators.

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Spring Wheat.—The past winter has been a severe one on winter wheat, though it is yet too early to judge of the full effect of the injury. Perhaps it will be wise to sow considerable spring wheat, though the product last season was less than was anticipated from its growth, owing to the aphis and midge. It is more certain to succeed if sown very early—as soon as the ground is in fit condition for working. Sown on corn-stubble or after potatoes, the ground need not be plowed very deeply; a gang-plow is sufficient for the work. Good soil, with good seed and plenty of it—more we think than has usually been sown—will be likely to secure a good crop. If the soil is not sufficiently rich, a light dressing of well rotted compost, or of old leached ashes harrowed in with the seed, will give the needed stimulant.

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Large Hog.—The biggest hog probably in the United States, was recently exhibited in one of the Boston markets. It was of the Leicester breed, raised at Amherst, N. H., and was fatted and slaughtered by L. B. Morse. Its live weight was 1,330 pounds—weight dressed 1,180 pounds. It was 2 years and 11 months old, and reached the size of an ox.

☞ In commenting on the prevalent reluctance among our farmers to enter upon Root Culture upon a scale at all commensurate with its importance, in the idea that "it may be suited to the climate of Great Britain, but won't pay here," we have often referred to the fact that the farmers of Canada make no such objections, and are doing more in this line than we are. A correspondent at Port Hope, C. W., sends to the Country Gentleman some interesting figures as to the Turnip Crop of Canada. He says:—

"According to the Census of 1851, there were over three million bushels of turnips grown in Upper Canada, and about 182 bushels was the average yield per acre. In the year 1861, according to the census of that year, the turnip crop had increased to over eighteen million bushels; the average per acre had increased to 248 bushels. Although this is but a low average, it is a great improvement in ten years, and probably the average per acre will be doubled by the next census. Turnips are not very extensively grown in Upper Canada, being chiefly confined to a few of the central counties, and from two to ten acres is about the extent of their culture on each farm, and but few exceeding ten acres. The turnip crop leaves the land in fine condition for future crops, being an excellent fallow for spring wheat or barley, and brought round in a seven years' course of cropping, the land will be improved, getting one good dressing of manure on every turnip crop. On farms where this system is carried out, all the straw and hay will be manufactured into rich manure."

It may appear "not very large" to an English farmer, to speak of "from two to ten acres of roots" on a farm, but it seems considerable here, where so many consider half an acre as an undertaking too formidable to be encountered, and where the census returns of Agricultural products do not even mention "Roots" collectively, let alone the humble turnip by itself. Our correspondent's hints as to the rotation to be employed are interesting, and we should be glad if he would write us a fuller account of the system of farming adopted by the most successful farmers of his district.

We have nowhere seen the returns of the last Canadian census (1861.) If any abridged summary has been published by the government, easily obtainable for the public, we should feel greatly indebted to any friend who can send us a copy.

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☞ A Meeting of Wool Growers was held April 2d, at Rochester, at which representatives were present from the counties of Monroe, Genesee, Livingston, Steuben, Wayne, Wyoming, Orleans and Ontario. Hon. Elisha Harmon of Monroe, was chosen to preside, and Messrs. A. McPherson of Genesee, and D. D. T. Moore of the Rural New-Yorker, to act as Secretaries. The chief subject of discussion was the practice of washing sheep—the debate on which is said to have been very animated and interesting, both sides of the question having warm advocates. The division of opinion was such that no vote was taken upon the resolution offered in condemnation of the practice; and no decided expression of sentiment was therefore arrived at, either *pro* or *con.* A resolution was, however, adopted, appointing a committee of one for each county in Western New-York, to ascertain the views of wool growers at home, and report the names or number of those who do and do not wash their sheep, for publication hereafter. Another committee was appointed to confer with manufacturers, to ascertain what difference they would make in the prices paid for washed and unwashed wool. And it was unanimously resolved, that whether sheep are washed or not, purchasers of wool ought to discriminate more strictly between the qualities and condition of what they buy, instead of striking an average and offering "a premium for slovenliness if not dishonesty," by the payment of "nearly or quite as much for poorly put up wool of inferior quality, with dirt and tags included, as they do for a clean, well-prepared, fine staple."

Another Wool Growers' Meeting took place at Cleveland, Ohio, April 15th, at which Hon. R. M. Montgomery of Mahoning was chairman, and Wm. F. Greer of Lake, Secretary. Three questions came up for debate, the weight of opinion with regard to two of which is officially reported as having been—"1st. It is highly desirable for wool-growers to dispense with washing sheep, and they are determined to do so as soon as they can secure from the manufacturers a just system of discount for the difference between washed and unwashed wool.—2d. The actual difference between wool shorn without washing and that washed in the usual way, ranks from 10 to 20 per cent., according to the style of the sheep and thoroughness of washing." On the third question, "the best method of marketing wool," no conclusion appears to have been attained. A resolution was reported giving the argument against the washing of Wool in detail, which was *passed*, each proposition being considered separately and adopted by a unanimous vote. The other proceedings were similar to those in the Rochester meeting. A resolution was passed urging the better support of the Ohio Farmer, and the convention adjourned to meet again on the 2d day of the State Fair at Cleveland, in September next.

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☞ We have received the following letter from Hon. Isaac Newton, Commissioner of the Department of Agriculture, under date of Washington, April 11th, 1863:—

"Messrs. Luther Tucker & Son—By this mail I forward to you a package of Garden Seeds, being a part of those distributed through the country from this Department, and which I think are such as come within the intent of the act creating this Department. They are certainly sought for most eagerly by the people of the country. It is my intention to distribute the seeds hereafter, as far as possible, through Agricultural Societies and Clubs.

"I hope these will be generally organized through the country, and I particularly request that every such organization now existing or which may be formed, should at once forward to this Department the name of its President and Secretary, that they may be promptly supplied with seeds and the Agricultural Reports; and you will confer a favor by calling attention to this through your paper."

The officers of all Agricultural associations, whether Societies or Farmers' Clubs, will thus enable the Department of Agriculture to secure a complete record of existing institutions of the kind throughout the country, and at the same time advance their own interests, by forwarding promptly to the Commissioner of the Department, the style of the organization and the names and *post-office addresses* of its President and Secretary. And we may suggest that a table of these organizations and their officers for the current year, would be a very valuable feature in the annual reports of the Bureau, occupying but little space in proportion to its importance to the agricultural community.

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☞ The New-Jersey State Ag. Society will hold its next Fair in the grounds of the Passaic Co. Society at Patterson, Sept. 8, 9 and 10.

☞ We are indebted to Chas. L. Flint, Esq., Secretary of the Massachusetts State Board of Agriculture, for copies of his Report for 1862, constituting a volume of nearly 700 pages, and published with a promptness which does no less credit to the Secretary himself than to the State Printers having the matter in charge.

A prominent feature in its contents is the sketch presented by Mr. Flint of his last summer's tour in Europe, occupying 186 pages, from which as well as from other parts of the volume, we have marked several extracts for publication. This is throughout an interesting paper, betraying much intelligent observation both in city and country. "We can travel in no part of England," remarks the writer, "without seeing the fields and hillsides covered with sheep. The number in comparison with our own is quite wonderful. In this respect, sheep husbandry, and in the systematic breeding and feeding of stock in general, it strikes me that English farming is decidedly superior to our own, and that we may learn many a useful lesson from it. Perhaps the same may be said also with regard to the economy and care of manures, the liberality of their application, and the general willingness to make large investments in permanent improvements with a confidence of good returns; but in the mechanical manipulations of the farm, the implements of husbandry, the economy of labor in accomplishing results, I think on the whole we may fairly claim superiority. The farming of the English would not always succeed so well with us, nor would ours with them. Each is better adapted to the circumstances in which it has grown up than the other."

☞ We are indebted to James G. Stevens, Esq., Secretary of the Provincial Board of Agriculture of New-Brunswick, and to another friend, for copies of the 3d Annual Report of that Board, for the year 1861–62. Among the other interesting matter it contains, aside from the proceedings of the Provincial and County Agricultural Societies, is a summary of the Agricultural Statistics of the Province taken in the year 1861. From this we derive the following facts with reference to the Agricultural products of New-Brunswick and the sister province of Nova Scotia:—

Produce.	Nova Scotia, 1861. Quantities.	New Brunswick, 1861, Quantities.
Hay, tons,	334,287	324,160
Wheat, bushels,	312,081	279,775
Barley, bushels.	269.578	94,679
Oats, bushels,	1,978,137	2,656,883
Buckwheat, bushels,	195,340	904,321
Indian Corn, bushels,	15,529	17,420
Rye, bushels.	59,706	57,504
Turnips, bushels,	554,318	634,364
Potatoes, bushels,	3.824,864	4,041,339
Butter, pounds,	4,532,711	4,591,477
Cheese, pounds,	901,296	218.067

Mr. Stevens states that the Reports received from the various local societies are very encouraging as to the progress and improvement of Agriculture and its interests generally, throughout the Province.

☞ Mr. E. Marks of Camillus, N. Y., has sold a young Short-Horned bull to each of the following gentlemen: Hon. D. Christie of Brantford, C. W., Mr. Isaac Aiken of Beckman, Dutchess Co., N. Y., and Mr. Samuel Harvey of Otto, Cattaraugus Co., N. Y. Also a bull calf, three heifers, and a cow, to Mr. Allen B. Palmer of Varick, Seneca Co., N. Y., and two very fine cows to Hon. A. B. Conger. Mr. Marks writes that his advertising in the Country Gentleman aided in making these sales, and hints that the supply is not yet exhausted. He can also show the remarkable feeding qualities of the breed, in some extra fine beef cattle which he is feeding—among them a steer three years old this spring, which for weight and quality he thinks seldom equaled.

☞ Hon. Marshall P. Wilder, President, and Jas. Vick, Esq., Secretary, of the American Pomological Society, will please accept our thanks for copies of its Proceedings for 1862. It is an admirably printed work of 227 pages, and if it contained nothing else but the President's Address and the Revised Fruit Catalogue, would be a most important addition to the science and literature of our Horticulture. To the former of the two articles mentioned, we have already referred; of the latter we have only room to say now that the labor expended by Mr. Barry and his fellow members of the Committee on the Revision of the Catalogue, has been as well and thoroughly performed as it was onerous and responsible in its extent and kind. Reports from 35 districts, including 24 States and the Canadas, are collated so as to give almost at a glance the results of experience in each, with reference to the following large number of sorts:

	Varieties.		Varieties.
1. Apples,	178	8. Quinces,	3
2. Pears,	122	9. Native Grapes,	17
3. Cherries,	43	10. Foreign Grapes,	22
4. Peaches,	55	11. Currants,	18
5. Nectarines,	6	12. Gooseberries,	13
6. Apricots,	11	13. Raspberries,	12
7. Plums,	33	14. Blackberries,	2

15. Strawberries, ... 25 varieties.

☞ The Kentucky State Agricultural Society announce the following premiums on Tobacco, to be exhibited in the different Warehouses in the city of Louisville, on the 27th of May next:

Best hogshead manufacturing leaf,	$100
2d best do. do. do.	50
3d best do. do. do.	25
Best do. shipping leaf,	100
2d best do. do.	50
3d best do. do.	25
Best do. cutting leaf,	100
2d best do. do.	50
3d best do. do.	25
Best do. cigar leaf,	100
2d best do. do.	50
3d best do. do.	25
To the lady in whose name is entered the best hogshead leaf tobacco (without regard to classification,) a coffee and tea-set of plated silverware, valued at,	125
To the owner of the best ten hogsheads leaf tobacco, a coffee-set of plated silverware, valued at,	150
To the owner of the 2d best ten hogsheads leaf tobacco,	75
do. do. 3d do. do. do.	40
To the owner of the best five hogsheads leaf tobacco, a coffee-set of silver plated ware, valued at,	100
To the owner of the 2d best five hogsheads leaf tobacco,	60
do. do. 3d do. do do.	30
do. do best three do. do.	75
do. do. 2d do. do. do.	40
do. do. 3d do. do. do.	25
do. do. best prized hogshead,	25

☞ The extent of the Live Stock transactions now taking place near this city, is illustrated in the following statement, which we make up from the Reports of the Albany Board of Trade for 1861 and 1862:

Number head received in	1860.	1861.	1862.
Beeves,	164,749	172,993	177,365
Sheep,	186,846	205,765	224,395
Hogs,	......	641,300	1,093,200

The Report for 1861 calculates the total trade in Cattle, Sheep and Hogs for that year, at upwards of *seven and a half millions of dollars.*

Salt for Swine.—Fattening swine occasionally become dainty and refuse to eat sufficient to keep up any very rapid improvement, and sometimes even fall away from their voluntary fasting. A correspondent of the Rural New Yorker tells of a lot of hogs which, on a change from boiled peas and potatoes to corn meal and corn in the ear, ate very little. He gave them plenty of salt and water (a pailful per hog, each day,) and they soon began to thrive again. They had water near them before, and no doubt needed salt to aid digestion, etc.

Inquiries and Answers.

DESTROYING MINT.—How can I destroy the patches of Brook mint, growing in a meadow that I don't want to plow? E. J. *Rockland Co., N. Y.* [Have any of our readers succeeded with any other mode than smothering by plowing or spading under? Draining the land would doubtless be useful; and keeping mowed very short would serve to admit the extension of the adjacent grass.]

STONE MILK PANS.—I notice in THE CULTIVATOR for Sept. 1861, your mention of Stone Ware Milk Pans, manufactured in Ohio. Can you give me any information about them—whether they will answer in a spring house, to stand in water? I am afraid of small cracks and sour milk. If you can give me any information or advice, or refer me to one who has had experience, it will greatly oblige me. Tin milk pans rust very soon in a spring house. I am about building a new dairy house, and any information on the subject will be very acceptable. No one in this part of the country uses water for this purpose. H. S. COLLINS. *Collinsville, Conn.* [We shall be pleased to hear from any one who has had experience in the use of these stone milk pans; and also to receive any hints on the construction of Dairy houses which may be of use to our correspondent.]

MILCH COWS.—I want the *best cow* I can get, for milk and cream—one that will give the *richest* kind of milk, and a respectable quantity—one too that will give milk for a good portion of the year, for we poor villagers have to be content with a one-cow dairy. Must have such an one. From all I can learn, I suppose the right kind of an Ayrshire would be best for me. May I ask your opinion in regard to this, and also to inform me, if you can, where *just the right one* of this breed can be had? D. W. P. *Mohawk, N. Y.* [Such a cow as our correspondent wants—one combining all the good qualities he desires—is but rarely found. For richness of milk, the Alderney undoubtedly ranks first,—but in quantity falls behind the best Ayrshires. You can procure Alderneys of F. M. Rotch, Esq, Morris, Otsego Co., N. Y., or Dr. H. Wendell of this city, and Ayrshires of Brodie, Campbell & Co., New York Mills, Oneida Co., or H. H. Peters, Southboro, Mass.]

LUCERNE.—A subscriber at Philadelphia, wishes for information in relation to the culture and value of Lucerne. So far as we know, it has not done well in this country. If any one has found its culture worth continuance, we shall be pleased to hear from him.

COUGH IN SHEEP.—I have three or four valuable Cotswold sheep that are troubled with a hard cough, which has affected them a length of time. It seems to be upon the lungs, as it sounds very harsh and dry; one of them, a buck lamb, has had it nearly all winter, and now is very poor, and his wool starts when it is pulled. Their appetites are good as ever. They are confined in a shed which opens to the south, with a number of others which I am fatting They have clover hay three times a day, with a feed of carrots in the morning and oats at night, with free access to running water. The cough does not appear to be contagious, but appears to be confined to these fow cases, and I know of no reason why these should have it, as there is no opening for the wind to pass through. I have tried tarring the nose, giving sulphur, etc, but it gives no relief. If you or any of your readers know of any remedy, I should be happy to hear of one. A SUBSCRIBER. *Montpelier, Vt.* [Will some of our sheep-raisers who are familiar with sheep diseases please answer.]

OSAGE HEDGE.—Through the columns of your valuable paper, I wish to make some inquiry concerning Osage Orange Plants. Which are the best to plant for a hedge, one or two year old plants—how far apart do you place them, and when is the best time to set them? C. C. H. [One year plants do well, and are most easily set out; two year plants will make a hedge a little sooner, but require more labor in setting. The distance asunder is usually 6 or 8 inches, but many think a double or triple distance better by affording more room for the roots of each plant, the required thickness of hedge being obtained by freely cutting back, and a consequent thick growth of horizontal branches. The best time is in spring as soon as the buds have swollen enough to show that the plants are alive and vigorous.]

PLOWING IN CLOVER.—Please state the best time to break up clover land for wheat, that has been pastured two years, and the right depth to plow. N. E. *Sanford, Ind.* [Turn the clover deeply over in summer, covering it well by assistance of a weed-hook or chain attached before the plow. Before sowing the wheat, cultivate the top of the sod thoroughly with a two-horse cultivator or Shares' harrow.]

DISSOLVING BONES.—Will you be so kind as to state through THE CULTIVATOR, the *best possible mode* of making a bone phosphate, by dissolving the ground or crushed bone by means of vitriol, quantity and proportion of the several matters, to form a ton of phosphates, or pit, as I desire to prepare several tons for my corn crop, as early as possible. JOHN W. ANDERSON. [Sulphuric acid will not dissolve bones well, unless they are previously ground to powder. If the bones are whole, or cracked into fragments, it will require months for the acid to dissolve every part, and even then the operation will be imperfectly performed After the bones are ground there are two modes. One is to place the bone dust in a heap on a wood floor, wet it by means of say half its weight of water, and then add gradually, as it is stirred over, nearly as much sulphuric acid, stirring frequently for several days. The other mode is to place the dust in a cask or tub, wet it by adding a rather larger portion of water, or nearly its own weight, as the cask will hold it, stir it well, and then add, by weight, nearly half the weight of the bones in sulphuric acid Stir rapidly, and when thoroughly mixed pour out the mixture on the floor, and prepare another portion, adding it in turn to the heap. Let it remain some days, till all parts are intimately combined. Being of the nature of a paste, it must be rendered dry enough for spreading by mixing with it some dry powder, as dried peat, pulverized charcoal, coal ashes, &c., but no alcaline substance as wood ashes, lime, &c. The sulphuric acid costs some two cents per pound in large quantities, and it is doubtful whether the benefit derived from this manure would pay its cost for most crops.]

PASTURING SHEEP.—E. S. asks in No. 12, vol. xxi, Co. GENT., "how much should be charged for pasturing sheep, when cows can be kept for fifteen cents per week." My experience is, Saxon and Merino, one and three-fourth cents; Long-wooled more. D. B. W.

SHEEP EATING THEIR WOOL.—I wish to inquire of you or your readers a remedy for sheep eating their wool? I have a flock of nice Cotswold sheep, a part of which I have kept a number of years. They have not only eaten from themselves, but from each other. At first I supposed it was caused by ticks, but on examination I found it was not so. Their food most of the time is clover, cut early and well cured, with turnips daily. I cut the hay with a common hay cutter, as they do not waste it as they do when fed to them long. Salt is kept by them, which they eat very eagerly,—also pounded bone, which they do not eat. An answer to the above question will oblige me and possibly many others. M. M. C. *Worcester, Mass.*

POULTRY.—My Black Spanish chickens pick the feathers off one another's necks and breasts every spring. What is the cause of it, and how can it be prevented? A. H. [Will some of our poultry-keepers answer?]

COAL TAR.—Is coal tar suitable to use to repel flies after docking and castrating lambs? R. R. C.

COUGH IN SHEEP, &c.—What will cure the dry cough we so often have in sheep? Is millet or Hungarian hay good for sheep? Some claim that it will kill horses and cattle. Do you or any of your correspondents know what effect it has on sheep? Will Theodore Smith or some one else give us the average weight of fleece of the Nankin sheep.

Hickory Farm, Ill. S. H. W.

SHEEP EATING THEIR WOOL.—M. M. C. inquires how to stop it. I noticed one day that mine were eating little locks which had caught on the rack. The thought struck me that some natural food was needed, which they had not access to. I immediately cut some apple tree, hemlock boughs, &c., and threw in for them to browse on, which they did with avidity, since which I have seen no more eating wool. B. *Conn.*

MARL.—I would like to inquire through The Cultivator, what is the name and qualities of the enclosed substance, (of which there is a bed on my farm,) and if it is valuable, how to use it? The farm is mostly a loam with a strip of clay, and one side is the flats of the River Rasin, having sink holes or ponds which contain vegetable matters to a depth of a foot or more—are easily drained, and are supplied with water from springs which flow out from muck-beds resting on bog lime, on the side of the bluff. Would this bog lime when burned, be good to use in the same manner as stone lime? J. C. L. *Adrian, Mich.* [The substance sent us is marl, and it appears to be nearly pure carbonate of lime, as it almost wholly dissolves with strong effervescence, in dilute muriatic acid. It would probably be valuable as a dressing to land, like air-slacked lime, in all cases where the latter proves beneficial. If burned, it would probably furnish good lime.]

SEEDING.—I have a piece of woodland that I wish to get into a pasture as soon as I can. I am cutting the wood off this winter. I wish to know the best and quickest way to make a pasture of it. How will it do to harrow the surface and sow hay seed and grain—and if so, which and what kinds are the best to sow? A Reader. [We could advise more definitely if we knew the character of the land, but we suppose it to be of medium dryness. Moist or natural meadow land will often become covered with a spontaneous growth of grass in one or two years after the wood is cut entirely off and brush cleared away; but the growth may be hastened in any case, by harrowing and sowing grass seed. Sometimes such new lands have given excellent grain-crops, by harrowing alone, and it might be seeded down with the grain. Timothy and clover are usually preferred on upland, and timothy and red top for moist land.]

BARLEY AND OATS.—How can I separate barley from oats for seed, they being mixed? [There are several new fans or "separators" that effect this purpose; Nutting's is one of the best, but we believe is not now manufactured or sold anywhere. We cannot at present furnish the names of the others.]

FOUNDER, &c.—I have a young Canadian horse, 6 years old, which had been a little chest foundered some time before I had him. I have had him three weeks—1st, I wish to know if he can be cured, and how, or if he can be helped—if his grain does him as much good as before he was injured—if his wind is as good, and if he can be fatted any? A Reader. [For a full statement of the management and treatment of founder, occupying several pages, see Dadd's Horse Doctor, page 256.]

WRAPPING SCIONS TO SEND BY MAIL.—Can you give in your paper, "*the how*" to prepare any kind of paper having a good body, for enclosing scions, roots, plants, seeds, &c., as a substitute for oiled silk? An answer will be interesting to thousands. B. [Oiled silk is commonly used only because it is most conveniently applied—running a thread around it from one end to the other readily forming a water-tight casing. Paper coated or varnished with grafting wax answers the same purpose. The wax may be brushed over in a melted state before the paper is used or after the wrapping is performed. There may be various thick varnishes to answer the same purpose, the only object being to form a case through which the moisture cannot escape.]

MANURE FOR TOBACCO.—What would be the best substitute for barn-yard manure to apply to tobacco? What is the relative value of barn-yard manure and ground bones? C. [In the absence of common manure, apply any other substance containing similar ingredients, as poudrette, guano, &c. It is hard to estimate the comparative value of bones in their practical effect, as like most special manures, they are uncertain, sometimes producing conspicuous results, and others hardly perceptible. Their value according to analysis is several times greater than that of yard manure; both bone and manure varying considerably in their composition.]

THE HORSE.—As no one has answered the inquiries of "A Subscriber," p. 192, I will try it. If galls are greased before they commence to heal, the hair will come of the natural color; otherwise they will be white. I know of no way to restore the color except to create a new sore, and then grease it before the hair starts. This may be done by rubbing blister salve on to the spot. The horse should be so tied that he cannot gnaw it and get the salve in his mouth. To reduce the lampas, it is not necessary to lance or burn them. If fed one feed per day of corn on the cob, the swelling will subside in a few days. Perhaps the horse is wormy, which causes him to rub his tail. A feed of rye bran will often physic or loosen the bowels and carry off large quantities of worms. As a wash for the tail, use a shampoo composed of aqua ammonia, borax, and water. Any barber will give you the proportions. B. *Conn.*

COAL TAR.—R. R. C. inquires if coal tar is suitable to use on sheep to repel flies. I do not know; but I do know that molasses is a safe and simple remedy. It will prevent fly blows, kill maggots, and heal up a wound on any animal very quick. It is excellent to use on wounds of sheep when bitten by dogs, which is generally done in the months of August and September. Nothing is necessary at this season of the year. Mine are already all castrated, and the ewes all docked and doing well. Castration should be performed the first fair morning after the lambs are three days old. Valuable instructions may be found in the Patent Office Report for 1861. B. *Conn.*

POULTRY pick feathers off each other's necks for the purpose of getting the blood contained in the end of the quill. A plenty of chopped fresh meat fed to them will stop it at once. B. *Conn.*

◆

MORGAN'S IMPROVED HARROW.

Messrs. Editors—One year ago I got a patent harrow from John E. Morgan of Deerfield, in this State, which is a wonderful improvement on any harrow I have ever used. I introduced the Scotch double harrow here some 40 years ago, but these made by Mr. Morgan will do double the work in the same time and do it better, and not any harder work for the team. The Morgan harrow will work the land better in going once over, than my other harrows do in going twice over; and if a farmer can save a man a pair of horses for other purposes when harrowing, it is considerable in these times. For all farmers occupying stiff soils like mine, I know they will give entire satisfaction.

We have very stormy weather; the ground covered with snow. Considerable plowing was done in January, in this section, but none since, and the prospect for plowing is very unfavorable at present.

I notice by the North British Agriculturist, that they were busy sowing wheat and other grain in February. If we could only do so we would require fewer men and horses. John Johnston. *Near Geneva, April 8.*

Ten Years' Importation of Flax Seed and Oil.

YEAR ENDING 30TH JUNE.	Quantity of foreign Linseed imported into this country in each year.	Total value of same at place of exportation. (52 lbs. per bushel.)	Quantity of foreign Linseed Oil imported into this country in each year.	Total value of same at place of exportation.	Total consumption of Foreign Linseed after reducing oil to its equivalent of seed—2⅓ gallons per bush.	Range of prices of East India Linseed in each year. (52 lbs. per bush.)	Range of prices of American Flax-seed in each year, for Sept. to Dec. inclusive. (56 lbs. per bush.)
	Bushels.		Gallons.		Bushels.		
1851,	602,074	$430,017	2,818,344	$1,632.811	1,809.935	—— ——	$1 25@1.35
1852,	855,007	589,749	1,583 012	779,054	1,533 441	$1.30 @1.75	1.30 1.50
1853,	867,580	633,395	1 912.523	1,045,897	1,687.233	1.45 1.80	1.25 1.45
1854,	1,111,721	928,140	1,456.611	775 058	1.735,983	1.60 2.05	1 45 1.70
1855,	1,102,545	1,009,381	1,243,035	776,097	1,635 274	1.90 2.30	1 75 2.10
1856,	1,696,294	1,741,260	1,712,208	1,063.771	2,430,098	1.85 2.40	1.70 2 25
1857,	2,730,359	3,003,824	1,465,865	958,200	3,344.301	1.25 2.10	1.35 1.12½
	Estimated.				Estimated.		
1858,	2.948,000	3 243,174	282 842	161,757	3 069.218	1 32½ 2.00	1 18 1.50
1859,	2,900,000	2,415,243	1,210,697	695.172	3 418 870	1.52½ 1.70	1.25 1.35
1860,	3,310,000	2,753.411	576.495	402,908	3,557 070	1.56 1.80	1.30 1 45
1861,	2,490,000	2.073,750	186,347	123,538	2,568.433	1.45 2 30	1.25 1.60

IMPORTATION OF FLAX SEED AND OIL.

Editors Country Gentleman—In accordance with my promise, I send herewith a tabulated statement of the importations of Linseed and its product in the form of oil, from 1851 to 1861 inclusive. (See table above.) Also the prices for each year except that of E. I. seed for the first.

The quantities and values are taken from the "Statistics of Commerce and Navigation," published by the U. S. Treasury Department, the respective years ending 30th June.

The quantities of seed from 1858 down, are not given in the reports, and I have consequently made the best estimates I could from accessible sources of information.

The prices of foreign seed are from the files of the "N. Y. Shipping List," and give the extreme range of prices from Jan. to Jan. in each year.

The prices of American seed are derived from crushers in this vicinity, and are for Sept. to Dec. of each year, that being the season in which most of the seed has been sold.

The difference in price between American and foreign seed, at the same season, has ranged from ten to forty cents in favor of the latter, but has generally been from twenty to thirty cents. In some few cases, as in the fall of 1857, the prices have been pretty nearly even.

The quotations of American seed in the New-York market, have been very irregular and inconstant, resulting from the fact that the crushers in the interior have taken pretty nearly the whole quantity, leaving but little to seek in that market.

I am happy to learn from all quarters, that a very large breadth of flax will be grown this year, and will probably be limited only by the scarcity of suitable seed.

Lansingburgh, April 15, 1863. A. E. POWERS.

◆

TO SAVE RENNET.

It is now decided by the best judges, that the calf should be taken from the cow sixteen to eighteen hours before killing it. When the rennet is taken out remove the straws, if there be any, and fill it with salt; never wash it in the least, inside nor out. Place a layer of salt on the bottom of a large stone jar that can be covered closely; then put in the rennet, add another layer of salt, and so on until the jar is full. Be sure and have so much salt that there will be no brine. Cover the jar tight, and set it in a cool place. When wanted for use, make a strong brine, (the brine should be about as warm as new milk just from the cow,) throw in a few sprigs of sage, and allow one gallon of brine for two rennets; they should be put in soak four days before needed for use. When soaked two days, they should be turned wrong side out, and thoroughly rubbed.

A teacup two-thirds full of the liquor, where two rennets have been soaked, should bring one milking of thirty cows; but be sure and use rennet enough to bring the milk the first time—better have a little too much than not enough. If you get in a little too much, it will not hurt the cheese in the least if it is sweet, as it will work off in the whey. Never soak rennet in sweet whey, for it has a tendency to sour the curd. Never use a drop of rennet but what is perfectly sweet. Soak the rennet in a stone jar, cover tight, and set in a cool place. Mrs. E. D. Call.

◆

GAS TAR FOR SEED CORN.

Editors Country Gent.—One of your subscribers asks for information in regard to the use of "Gas tar" for seed corn. I have used it for about 15 years, and find it very good in preventing the birds from taking it up. I have sometimes found it pulled up, but not taken from the plant. As for "gophers," I do not know whether it would be a preventive in their case or not, as we have no such "varmints" in our country.

About 3 gills to the bushel is sufficient for a coating. If it is put on too thick, it will prevent the moisture from entering the grain, and hence it will be a long time in germinating. By mixing small quantities at a time, it is coated more easily. G. *Woodbury.*

A correspondent wishes to know how to put gas tar on seed corn. I will tell him how I do it, and the reasons why. Soak the corn in warm water at least twenty-four hours; now split a grain open, and if there is any dry spot in it, let it soak till it appears moist inside. Now pour the corn out into a basket to drain; let it stand there, stirring occasionally, till you can see that the root is ready to come out; it will show a slight protuberance on the grain. Now spread the corn on a floor or boards, (a stable door taken off answers a good purpose.) Warm the tar enough to make it thin, pour it over the corn (as you would pour molasses on a fritter when you don't want much on,) stir the corn with a stick until every grain is coated with tar, and the grains assume a *grey* appearance. If you put too much tar on they will stick together; sprinkle on plaster or ashes—plaster is best, ashes being so near the color of the ground, makes it difficult to see the corn when dropped on the ground. Now throw the whole mass into a sand riddle, and sift out all the loose plaster, and you are ready to plant.

No bird or domestic fowl will disturb it; can't tell about gophers, mice or squirrels. Soaking the corn is very essential, as there must be moisture enough *in the grain* to sprout it, for the tar prevents any moisture from the earth. I have sometimes let it remain after being tarred, until the roots were half an inch long without injury, but if the sprout comes out, it is very tender and will break. W. D. Sugar. *Chester Co., Pa.*

THE SUBSCRIBER WOULD LIKE TO CONTRACT

with any party or parties for the Manufacture and Sale in the State of New-York of BULLARD'S IMPROVED PATENT HAY SPREADER AND TURNER, patented May 21, 1861.

SAMUEL HARRINGTON.
April 16—w2tm1t. New-Braintree, Mass.

PREMIUM CHESTER COUNTY WHITES.—

THOMAS WOOD,
Penningtonville, Chester Co., Pa.,

Continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. April 16—w&mly.

ALL ABOUT FLAX CULTURE.—

A GOOD, USEFUL AND TIMELY

WORK ON FLAX CULTURE,

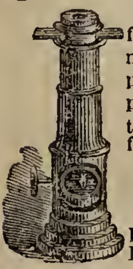
will be issued on the 20th of April, 1863—with all requisite information relative to preparing the ground, sowing the seed, culture, harvesting, &c., &c. It is mainly by men of long experience in Flax Growing, who KNOW WHEREOF THEY AFFIRM, and how to impart their knowledge. The aim is to furnish a COMPLETE AND

PRACTICAL MANUAL OF FLAX CULTURE,

such a work as will enable new beginners to grow Flax successfully, an the first trial.

The Manual will be issued in handsome style, pamphlet form. Price only 25 cents—for which a copy will be sent to any point reached by the United States or Canada mails. Liberal discount to Agents and the trade. Address D. D. T. MOORE, Editor Rural New-Yorker,
April 16—w&m1t. Rochester, N. Y.

CRAIG MICROSCOPE.



This is the best and cheapest Microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of $2.25, or with six beautiful mounted objects for $3, or with twenty-four objects for $5. Address

HENRY CRAIG,
180 Center Street, New-York.

A liberal discount to the trade.

Retailed in Albany by GEORGE F. UDELL, 536 Broadway, and by BENJAMIN MARSH, 34 State-Street. In Troy by YOUNG & BENSON. April 2—w&m1yr.

BONE TAFEU.—This is a new Fertilizer made

from bone and night soil ground fine—is a substitute for Superphosphate of Lime and Guano upon winter and spring grains, and grass land. Containing as it does every element necessary for the growth of the plant, it is superior to any other fertilizer as a BROADCAST APPLICATION—used at the rate of 300 to 400 pounds per acre. Price, $45 per ton of 2,200 pounds. Made only by the

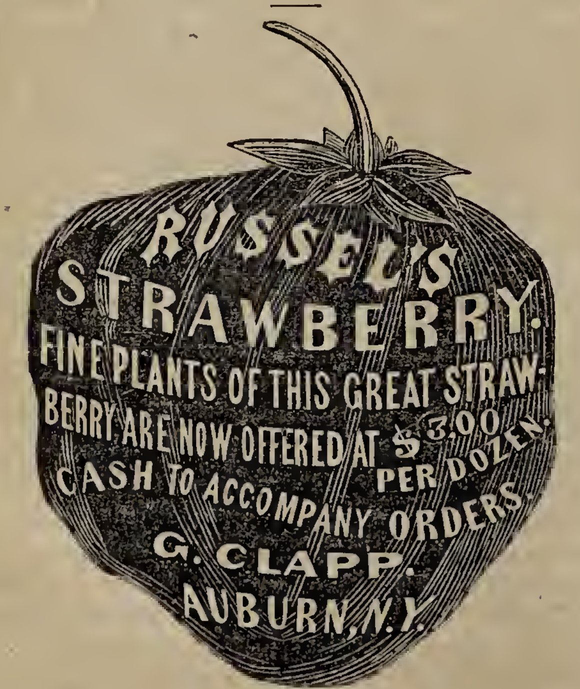
LODI MANUFACTURING COMPANY,
Feb, 5—w13tm3t. 66 Courtlandt-st., New-York.

GARNET CHILI POTATOES.—

100 bushels Garnet Chili Potatoes for sale for seed. With me they do not rot. $1 per bushel, or $2 per barrel. All orders received will be promptly filled as soon as danger from frost is past. Potatoes shipped by canal or railroad, according to the situation of the place to which they are to be sent. Address

JAMES M. ROCKWELL,
March 5—w&mtf. Butternuts, Otsego Co., N. Y.

PLANTS SENT BY MAIL PREPAID.


RUSSEL'S
STRAWBERRY.
FINE PLANTS OF THIS GREAT STRAWBERRY ARE NOW OFFERED AT $3.00 PER DOZEN.
CASH TO ACCOMPANY ORDERS.
G. CLAPP.
AUBURN, N.Y.

Or WILLIAM THORBURN, Agent
March 26—w&mtf. Albany, N. Y

NANSEMOND SWEET POTATO PLANTS,

Of best quality, during May and June. Put up to carry safely long distances.

Price---400, $1.00; 1,000, $2 25; 5,000, $10.00; 10,000, $18.00.

This variety is hardy and prolific, being profitably grown 44 deg. north. Send for our Circular, containing instructions in cultivation and experience of those growing them. Address

MURRAY & CO., Foster's Crossings,
April 1—m2t. Warren Co., Ohio.

ONE HUNDRED THOUSAND BARRELS

OF THE

LODI MANUFACTURING COMPANY'S

POUDRETTE,

FOR SALE BY

JAMES T. FOSTER,

66 Courtlandt-St., New-York.

In lots to suit purchasers. This Company have the largest capital and factory of the kind in the World, and possess the best facilities for manufacturing the night soil of New-York city, for which they have the exclusive contract, into a dry inodorous but powerful manure—superior to any other fertilizer in market, taking cost and yield into consideration. Price $1.60 per barrel, free from cartage, for any quantity over 7 barrels—or only $16 per ton.

☞ Beware of spurious imitations, put up in barrels to resemble this Company's brand.

Attention is called to the following letter from a farmer:

FARMINGTON, N. H., October 9, 1862.

JAMES R. DEY, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight house; opened it; came to me with eyes wide open, and said: "YOU HAVE GOT CHEATED; THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then ommitted eight rows, and then put lime in the bill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no preceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides DIRT. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me $4.20. He informed me afterwards that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them $5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it wil not kill the seed.

And again, it is not so expensive. My method is TO PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

Respectfully yours,
GEO. L. WHITEHOUSE.

The Company's pamphlet, containing directions for use and other valuable information, will be sent free to any one applying for the same

Address J. T. FOSTER.
Jan. 29—w13m3t. Care of the Lodi Manufacturing Co

ALDERNEY COWS,
HEIFERS AND BULLS.
For sale by ROBERT L. MAITLAND,
July 31—w&mlyr New-York City.

E. N. BISSELL, SHOREHAM, VT.,
BREEDER OF
SPANISH MERINO SHEEP,
Yorkshire & Chester Co. White Hogs,
FANCY POULTRY, PIGEONS, RABBITS, &c.
☞ SEND FOR A CIRCULAR. Feb. 26—w14tm3t.

PURE BRED NORTH DEVON STOCK
COWS, HEIFERS AND BULLS.
Also GREY or SPECKLED DORKING FOWLS, bred with great care. For sale by R. H. VAN RENSSELAER,
April 9—w&mtf. Morris, Otsego Co., N. Y.

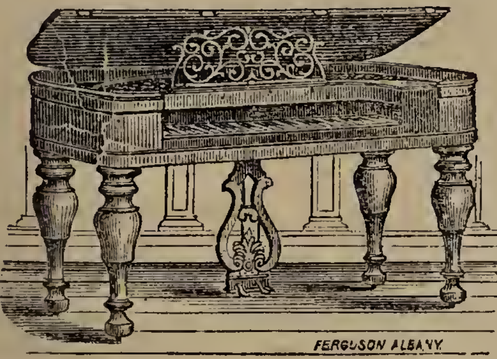
TO CHEESE MAKERS!
RALPH'S PATENT IMPROVED
"ONEIDA CHEESE VAT,"

Was awarded the FIRST PREMIUM by competent judges, after a thorough test of merit, at the New-York State Fair 1862. It is the most simple, durable and effective cheese making apparatus in use. Is used in dairies of 10 to 1,000 cows. The only vat well adapted to "factory" cheese-making. More economical in use than steam, and much less expensive in cost.

We have on hand, ready for delivery, all sizes, varying from 84 to 355 gallons, and make to order larger sizes for factory use.

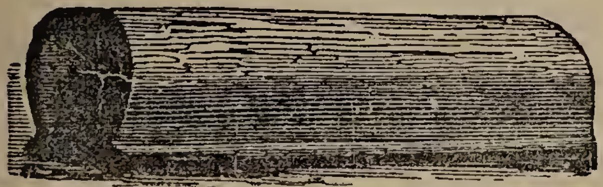
Circulars containing description, size and price list, and directions for using, sent on application to
WILLIAM RALPH, }
JOHN CARTON. } WM. RALPH & Co.,
133 Genesee-St., Utica, N. Y.,
Manufacturers and dealers—wholesale and retail—in Dairyman's Tools and Implements. Feb. 12—w&mtf.

BOARDMAN & GRAYS'
PATENT IMPROVED
INSULATED IRON RIM AND FRAME



PIANO FORTES.
MANUFACTURED BY
WILLIAM McCAMMON,
(Successor to BOARDMAN, GRAY & Co.)
Albany, N. Y.
☞ Send for illustrated price list. Nov. 27—w&mtf.

NEW-YORK STATE TILE WORKS,
NEAR THE CORNER OF
LARK & LYDIUS-STREETS, ALBANY, N. Y.,
WM. M. BENDER, Proprietor.
GEO. JACKSON, Superintendent.



The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same.

Also DRAINING TILE MACHINES for sale of the latest improved Patterns. For further particulars address as above. Ap. 9—w&m.

DOWNING'S FRUIT AND FRUIT TREES
Just Published and for Sale at this Office—sent by mail, post-paid, at $2.00.

Whatever other Agricultural Journals the Farmer may take, the Cheapness and Value o The Cultivator render it indispensable.

THE CULTIVATOR.
FOR 1863.

This Periodical enters upon its thirtieth year, with 1863. It is now made up from the COUNTRY GENTLEMAN—those articles being particularly selected which shall present in each number the greatest variety of brief practical hints and suggestions, calculated to be of the widest interest and most general utility. It has long been the belief of the Editors that what one farmer has done another can do—hence their aim is to transcribe, either themselves or through their correspondents, the exact systems which the best and most successful of our farmers are now practically following, by which they have made money and enriched their soils—to explain the modus operandi, and set others in the way of following the example. We may assert without exaggeration, that it contains scarcely a page, from January to December, on which may not be found some Fact from the Actual Practice of the writer, of far greater real value to the careful reader than the year's subscription.

THE CULTIVATOR has always been FAR LARGER—containing from one to two-thirds more matter—than any contemporary published at the same price. While other papers have advanced their rates, or have been discontinued, we propose to CONTINUE THE CULTIVATOR FOR 1863 ON THE SAME TERMS as heretofore, and it is now not only, as it has always been, THE CHEAPEST, but also, we believe, THE ONLY Agricultural paper published in the United States whose single copy price is FIFTY CENTS A YEAR.

THE CULTIVATOR

Is published monthly, all subscriptions beginning with the January number, and forms an annual volume of nearly 400 large 8vo. pages

Single Copies 50 Cents per Annum,

Payment strictly in advance. Clubs are presented with the ANNUAL REGISTER OF RURAL AFFAIRS, containing 144 Pages, and 150 Engravings, and thus obtain

528 Pages Reading Matter, and more than 200 Engravings, for Fifty Cents

WHAT EVERY BODY WANTS!!

We have secured what we consider the BEST WAR MAP of the whole Fifteen Southern and Border States, colored and engraved on steel, covering a surface o about FIFTEEN SQUARE FEET, revised and corrected to the latest dates, which we are enabled to CLUB WITH THE CULTIVATOR AND REGISTER on the very favorable terms given below. Such a Map, previous to the late advances in the art of printing, could not have been purchased for less than TEN DOLLARS; but under the following proposition, our subscribers will receive it at a cost of

ONLY FIFTEEN CENTS!!

In other words, Ten Copies of THE CULTIVATOR and REGISTER, with TEN MAPS, (and one of each free to the sender of the Club) will be sent for $6.50, and the following will be the

TERMS FOR 1863.

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  7. Lychnis Haageana—Whittavia Grandiflora.
  8. Calleopsis Cardaminifolia—The Gaillardias.

⁂ This article was written for the ANNUAL REGISTER with Drawings and Engravings expressly prepared to accompany it, and not before published in this country, by JAMES VICK, Esq., of Rochester.

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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N. Y., JUNE, 1863. No. 6.

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J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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The Cultivator & Country Gentleman.

TOP-DRESSING OF GRASS LANDS.

We had the pleasure last summer of visiting "Oak-Hill," the farm of R. S. ROGERS, Esq., near South Danvers, Massachusetts, where, among other items of especial interest, we examined a large Grass-field which had been the subject of a number of experiments in Top-dressing during three successive seasons. We deferred the publication of our notes until we should receive from Mr. R. the results of the crop of 1862. The report of that season Mr. R. kindly sent us several months since, and it has been awaiting a period of greater leisure for the notice which it so well deserves.

The question of the management of Grass lands, so as to maintain or increase their yield, is one of great importance and considerable difficulty. It is a comparatively slow and expensive process to break them up, and carry the land through a succession of other crops, previous to re-seeding. There are many, too, who think that the older a sod is the better; and yet, after a certain time, there are few instances in which some method of renovation does not seem necessary. If this can be successfully accomplished without disturbing the sod, there is a great point gained, not only in respect to the labor saved, but also in keeping up the regular production of grass or hay without the interruption of years of tillage.

Upon some farms it is indeed already the established system to keep up the meadows by the surface application of manures alone. "Ellerslie," the seat of the Hon. WM. KELLY, in Duchess County, affords a most admirable example of the kind. But it is too often the case among farmers generally, that the meadows and pastures are neglected until their yield is greatly diminished, and they become foul with all sorts of intruding weeds,—and, at last, re-seeding is the only remedy that will avail. While, with a fair chance, the useful grasses, clover and the like, will keep the ground mostly to themselves,—under the "slipshod" theory of management, they are cropped down from above and starved out from below, until Nature can only manifest her disposition to produce *something*, by substituting for them such a worthless growth as her stinted resources afford, and of a value about in proportion to the deserts of the recipient.

With the view of fairly testing the results of Top-dressing, and the respective merits of different applications for the purpose, Mr. ROGERS selected a field excellently suited for such a trial, very uniform in sward, and free from shade or other objection; and, in April, 1860, staked out five lots, each 250 feet in length and 45 in width, (thus embracing a fraction more than a quarter of an acre.) A top-dressing for each lot was prepared as follows, the cost of each being as nearly as possible the same, ($10 each,) in order to arrive at the comparative profit obtained. Although no statement is given in Mr. ROGERS' reports, of the yield on the unmanured portion of the field, which would have been a very desirable item, his previous experience with the results of top-dressing satisfied him most convincingly that *it paid well;* and we could detect a marked difference ourselves in the appearance of the field according to the treatment it had received. Mr. ROGERS told us his first experiment in top-dressing, which we noted for publication, and which we perceive he has included in his last report. He had a ten acre lot which had not been broken up for a long series of years, and which began to manifest very plainly its need of some renovating application. He expended about $75 in the preparation of a compost for it; and a neighboring farmer in passing just before the application, called out to know, "Why he did not put that manure *under the grass?*" Mr. R. responded that turning it over would be very expensive, would require just as much manure and more labor, and that then he should not have a *good hay crop* under four years—two being necessary to get the land into tilth, and two more, after seeding, to reach a fair yield,—while, as it was, he meant to reap the fruits of his outlay without so long waiting. The anticipation was amply realized—the result of the compost, applied late in the fall, being a crop cut the next July of nineteen tons, and in September of six tons more—being a total of 25 tons from the 10 acres. The crop of the same field the year previous to the top-dressing, had been a total of *eight and one-half tons* in two cuttings!

But to go back to the experiment field of 1860—the five plots in which were laid off as above, and dressed as follows in the month of April:

No. 1—two cords of Manure, well rotted and mixed with one and one-half horse-cart loads of soil.
No. 2—120 bushels leached Wood Ashes.
No. 3—two cords green Cow Manure, the droppings of only a few days before.

Results of Top-Dressing on the Hay Crops of Three Years.

KIND OF MANURE.	YIELD IN 1860.			YIELD IN 1861.			YIELD IN 1862.			Aggregate crops for the three years.
	1st crop.	2d crop.	Total.	1st crop.	2d crop.	Total.	1st crop	2d crop.	Total.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs	lbs.	
No. 1—Compost,	790	380	1,170	850	240	1,090	700	265	965	3,225 pounds.
2—Leached ashes,	680	440	1,120	980	420	1,400	900	290	1,199	3,710
3—Green cow manure,	960	640	1,600	1,300	450	1,750	1,050	300	1,350	4,700
4—Unleached ashes,	900	550	1,450	1,350	540	1,890	950	280	1,230	4,570
5—Peruvian guano,	1,300	370	1,670	730	140	870	450	100	550	3,090
	4,630	2,380	7,010	5,210	1,790	7,000	4,050	1,235	5,285	19,295 pounds.

No. 4—80 bushels unleached or dry Wood Ashes.
No. 5—255 lbs. pure Peruvian Guano, mixed with one and one-half horse-cart loads of brook mud.

The crops upon these plots for three consecutive years, *without any subsequent manuring whatever*, are given in the above table.

This table suggests some interesting deductions. The $10 worth of *Guano*, which leads off in the first crop of the first year, has exerted nearly or quite all its influence, and is "nowhere," afterwards. The $10 worth of *new cow manure*, which is but little behind the guano in 1860, is second in 1861 to unleached ashes, is best of all in 1862, and is again at the head in the aggregate of the three crops. The $10 worth of *unleached ashes* stands third in 1860, first in 1861, second in 1862, and second in the aggregate. The $10 worth of *compost* is fourth all the way through. The $10 worth of leached ashes is fifth in 1860, and rises to the third in 1861 and 1862, and is third also in the aggregate. Mr. Rogers remarks in his statement for 1861: "I am satisfied, from a close observation, and from practical results, that *green cow manure* is one of the best fertilizers, and the safest to be used for top-dressing of grass-sward." The appearance of the trial field after the harvest of 1860 had strengthened this opinion, for he wrote in the account of the experiment of that year, first published in February of 1861: "The second mowing of the guano lot disappointed me, and its short-comings on the second crop almost conclusively proved that it had lost much of its fertilizing properties in the production of the first crop of grass. It would not surprise me, on the return of the next season, *to find the green cow manure lot superior and more reliable than either of the other fertilizers* as a general dressing."

We subjoin a calculation showing the *average rate per acre* of the crops produced for each of the three years:

		Hay per Acre per Year.
Green Cow Manure averaged,		6,067 pounds.
Unleached Ashes	do.	5,900 do.
Leached do.	do.	4,789 do.
Composted Manure	do.	4,163 do.
Guano	do.	3,989 do.

The average hay crop for three years after the application of the guano top-dressing, was thus about *two tons* per acre per year, while the average crop for three years after the application of green cow manure was a fraction over *three tons*. We find that the average crop of the whole five plots (1.291 acres) was at the rate of two tons and a half (4,981 lbs.) per acre per year.

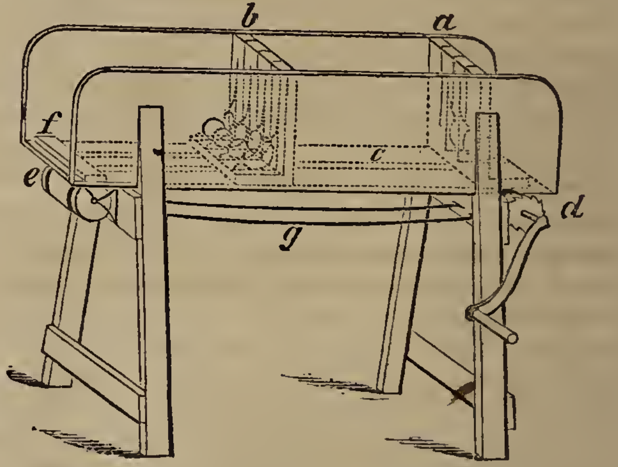
Mr. Rogers justly observes: "The farmer of small means is often induced to worry along with an old and worn-out sward, whereas had he taken it in time, and used upon it but a small portion of his manure, he would have been incalculably remunerated on seeing a large crop of hay for his reward. I hope it will not be taken amiss when I say farmers must drop some of their old fashioned notions of tilling the ground in this age of improvement, and strike out some new mode of production, where labor and expense can be spared, in making two blades of grass grow where only one was grown before."

We simply add in conclusion that our readers may possibly recall the account of our visit, in 1859, at the farm of Thomas Horsfall, Esq., in Yorkshire, England, (Co. Gent., Sept 6, 1860,) where results so remarkable are obtained in the production of grass, and where the sole dressing in use on one field was the *fresh cow manure* from the pits under the stables. The field to which this manure was applied, yielded, so far as we could judge, quite as well as the other field, which was irrigated with sewage water.

* * *

GEDDES' WOOL PRESS.

We have several times on former occasions referred to the Wool Press used by Mr. James Geddes on his farm near Syracuse. Taking, as the basis of his contrivance, a rude affair occasionally employed before for the purpose, Mr. G. added one improvement and another, suggested by experience, until the machine in its present form may be fairly considered of his invention. We give a drawing and description below:



Geddes' Wool Press consists of a substantial and firmly made box supported on legs of convenient height; the length of the box three feet, and its width and depth one foot. One end or head of this box (*a*) is fixed, and strongly braced by a sort of iron bracket made for the purpose; the other or movable head (*b*), has a horizontal support to which it is also firmly braced, and slides from the cleet nailed at *f* up to within any requisite distance of the other head, *a*. Through both the heads there are three perpendicular slits which render so many braces essential to their strength, and through which the strings are extended for the tying of the fleece. In operation, these strings having been put in place, the fleece is folded to go into the box, but not rolled; the crank, turned by hand and prevented by a ratchet from springing back, moves the roller at *d*, which, by means of the strap shown at *c*, pulls up the flollower *b*—the strings are secured; the catch lifted and crank reversed, when the straps at *g* draw back the follower, and the fleece is released in perfect shape.

A just degree of importance is perhaps not generally attached to the tying up of fleeces in a workmanlike manner. Indeed without the aid of a press, the task is by no means easy. The buyer of wool is expecting to see the fleeces in good form, and properly tied with just the necessary amount of twine to hold them in shape. When he sees things right in this particular, he assumes in his mind that the grower understands his business all the way through. And however clean and good the wool may really be, if it is tied up in a slovenly manner, the buyer, however good a judge he may be, will receive the mental impression that the grower does not understand his business, and that caution is necessary in offering a price.

The use of this press is a saving of time and labor, as well as advantageous to the appearance of the fleece—which, when it is released from the pressure it has undergone, expands sufficiently to conceal the strings that fasten it, and only shows the clean interior surface of the wool. It is in an almost cubical form, and this, as well as its tighter compression, enables it to be packed to better advantage.

We have given this extended notice to Mr. GEDDES' invention, for the reason that numerous requests for a full description of it have come to hand since it was alluded to at the time of the State Society's Annual Meeting. As it is not patented, and Mr. G. has no personal ends whatever to subserve in bringing it to the notice of the public, we add that in manufacturing several machines for the use of himself and friends, he had the castings and stuff prepared for a considerable number beyond their immediate wants, which will be sold at what is considered a fair remuneration for the actual material and mechanical labor required in their construction. They are not made *cheaply*, since it has been proved that great strength and good workmanship are absolute essentials in their satisfactory operation, and there would probably be an advantage in obtaining one made under Mr. G.'s own eye more than counterbalancing the cost of transportation even for a long distance. Mr. G. may be addressed at Fairmount, Onondaga Co., N. Y.

◆

Breeding and Management of Sheep.

In order to the formation of a good flock of sheep, it is, in the first place, essential in the selection of your breeding ewes, to reject all under two years old; also such as from age have defective teeth. Yearling ewes which have lambs the spring they become two years old, usually make poor nurses, in consequence of not having a sufficient supply of milk to give their lambs a fair and full physical development; and all my observation goes to show that lambs thus raised make a miserable stock of of sheep, and it is from the same reason that old ewes should be rejected as breeders, for they too are deficient in the amount of nutriment required for the sustenance of their lambs. Most sheep-raisers are anxious to raise all the lambs they can; hence with a view to this end, they will breed from the old and young. When this is the case, I have invariably observed that much trouble and ultimate disappointment followed. Many lambs raised from such sheep will dwindle and die in August and September, and those that survive the first winter, make at best very defective stock.

If the object of the sheep-raiser is to cultivate fine wool, he should select bucks that are evenly fine all over, and thick set, and as great length as can be obtained consistent with compact fleece; great length of staple and compactness are not usually found together.

Two vigorous bucks, if well fed, will answer for one hundred ewes. The time for putting the bucks to the ewes may vary according to the convenience of the sheep-raiser, and the latitude of their location. With conveniences for the protection of lambs, the middle of April is a suitable time for the lambs to come. It is desirable to have the lambs come as near together as possible. With a view to this end, the ewes should be in high condition when the bucks are put to them. In adjusting the size of the flock to the pastures on which they are to range, it must be borne in mind that the smaller the flock the better the lambs will do. Pasture lands should never be so heavily stocked as to have the grass shaved to the bare ground. When there is a generous amount of feed left, the roots of the grass are protected from the action of the sun and frost.

In all sections of our country north of latitude forty, nice, luxuriant blue grass pastures can be had, and if properly managed in open winters, will contribute largely towards sustaining sheep. Lambs should be weaned by the middle of August. I have found a clover field the best for this purpose; with a little management they can be made to eat oats, and nothing will make them grow faster. At all seasons it is more or less essential that sheep should be classified, but indispensibly so in the winter. Hay, which should constitute the principal food for sheep, ought to be cut from the last of June up to the middle of July, and saved with all possible care, avoiding both rains and dews, and stirred to a degree that it will not heat in the stack or mow, as the case may be. Lambs fed with what good hay they will eat, together with one-half bushel of corn or a bushel of oats to the hundred, with water convenient, will be sufficient to keep them in good growing order. A lack of convenient water is among the greatest errors of sheep-raisers. The most abundant supply of food, as above directed, together with shelter, is essential to bring fine lambs at the age of one year, and the same tender care is necessary to carry them through the second winter to mature them to perfect stock. More sheep die from diseases contracted by bad and insufficient food and the want of shelter, the two first years of their existence, than from all other causes combined. When sheep are properly divided, have an abundant supply of suitable food and water, and good shelter in winter, hospitals and medicine chest can be dispensed with.

Breeding ewes should be kept in good condition at all times. The first inducement for this is the increased quantity of wool over what they would have with *moderate* keeping, and you may superadd a lamb to each ewe, or nearly so. My practice is to break up sod ground for corn, the succeeding spring I sow oats, followed by a wheat crop; a sufficient amount of timothy seed is sown at the time the wheat is harrowed; the following spring, about the 20th of April, I sow clover seed. By the above course of farming I have fresh meadow every season; and it is a fact worthy of especial notice, that new meadows do not suffer from drouth like old ones. The farmer who makes it his principal business to raise sheep, should make it a prime object to have an abundance of good hay, that will supersede the necessity of the sheep-killing system of feeding straw.

Some recommend cutting the hay which is fed to sheep. This I consider labor lost, inasmuch as the digestive organs of sheep are more complete than in most animals. There is nothing more important in sheepology, than in having them in high condition at the commencement of the winter. If your sheep are poor the first of December, they will be likely to remain so all winter, unless very great pains is taken to improve their condition by high feeding. Buck lambs are more tender and difficult to raise than wethers, and the latter more than ewes. Nice attention to weaning and early feeding with grain in the fall, together with abundant feeding through the winter, will overcome the evils which they are liable to if neglected.

I noticed recently in the COUNTRY GENTLEMAN, that information was asked on the subject of confining sheep to their yards in the winter. This winter finished up fifty years that I have kept sheep; through all of this time it has been my practice to allow the sheep to have range of the pastures in pleasant weather, and from it I think much benefit has been derived in the economy of feed, and health to the stock. The failure of others to see this matter in the light that I do, is perhaps owing to one of the following reasons. Either their pastures are not of the right kind, or else not in a right condition. Blue grass pastures afford desirable locations for sheep; it not only pleases their palate, but gives them substantial nutriment. The effects of frost is very different on blue grass to what it is on other grasses; the injury is very slight; were it not so, the sheep would not be so eager to eat it, and then would like their usual amount of hay.

Elm Grove, Ohio Co., West Virginia. NATH'L P. ATKINSON.

Maxims in Relation to the Use of Plaster.

MESSRS. EDITORS—It is truly marvelous that so little should be definitely known concerning the fertilizing effects of an article used so generally and so constantly for more than sixty years. Such ignorance is certainly humiliating to our farmers as a class. This should not be so, and need not be so.

When gypsum was introduced, its good effects were so manifest that every farmer rushed into its use at all times and under all circumstances. In the progress of time it was sometimes found to have no effect at all. Farmers observing this, instead of instituting proper inquiries into its laws, declined using it, and some abandoned its use altogether. Now all this was wrong, and betrayed a careless, shiftless disposition.

For fifty years, save one, I have used gypsum on my small farm, and I have studiously watched its results. Sowing plaster is a laborious process. I never belonged to that class of people who believe labor to be a blessing, except as it administers to our necessities or enjoyments. God imposed labor on our first parents as a punishment for their sin, and I never felt disposed to question his judgment or its power to produce repentance, in my case at any rate.

I have no doubt millions of dollars, and a vast amount of muscular power have been thrown away by sowing plaster; yet all this is attributable to sheer ignorance of its use. For my part I can freely say I sow it with as much assurance as I sow any grain or plant a hill of corn.

As for its *modus operandi*, or theory of its action, I presume I know as much about it as any other man, and that is just nothing at all. But from actual observation I have had conclusions forced upon me so clearly that I venture to style them *maxims*. These are:

1. The best time for sowing plaster is in May or early in June.

2. Gypsum produces its full effect on light, dry land of loam mixed with a small amount of sand. As the proportion of sand increases its effects diminish, till on pure sandy soil it has no effect. The same is true of argillaceous or clayey soils. The more clay and water in the land, the less will be the effect of plaster until, on low, wet and clayey land, all its effects cease.

3. Like grass or grain, a certain amount of rain is necessary to bring out its full beneficial effects; but these effects are more deterred by drouth than they are in grains.

4. Any land suitable for gypsum, whether wild or cultivated, seeded or unseeded, will always respond to the one first coat of plaster, and produce its full effects. The richer the land is, and the more highly manured and seeded, the greater will be the results.

5. After the effect of the first coat ceases, no subsequent coat of plaster will produce any effect whatever, although a dozen coats be sown, until the ground is again tilled and seeded. Hence sowing coat after coat as the summers roll by, on the same land, is all labor and money thrown away.

6. Plaster produces its most striking effect on clover, red and white. After the red has gone through its developments and died out, the white follows in the train of effects. On corn and buckwheat it has good effects. On timothy, and the grasses generally, it is useless. On wheat, rye and oats it is worthless. On potatoes it is of little or no use.

6. Two bushels sown on an acre will produce as much effect as a dozen, or any quantity. A half bushel will produce as good results on clover for one season as more, but its effects cease with the season.

7. To produce its full and lasting effect on corn, it should be sown broadcast between the rows, after the last plowing. It is then brought in contact with the roots which lie under the whole surface. The usual teaspoonful applied around the young stalks has a very short effect, and never adds one iota to the grain.

Jefferson Valley, April, 1863. JAS. FOUNTAIN.

FRUIT ROOM.

Over my wood-house, a full half-story, I ceiled inside of the rafters and studs, then put up studs and ceiled top and sides to within eight inches of the floor, leaving eight inches of clear space, which I filled with saw-dust. The north end is filled 16 inches thick, with double windows; the south end is two feet with two doors, so that one can be closed before opening the other. In the top there is a ventilator three inches square, constructed in this way: There is a wall of saw-dust on all sides, perfectly connected; under the floor joists it is also ceiled, thus making complete air spaces all around outside of the saw-dust. The temperature of the room is but little above freezing, and remains without marked variation all winter. Apples have kept remarkably well in it the past winter, retaining their flavor perfectly. I have no doubt after the saw-dust becomes perfectly dry, it will prove to be one of the best fruit preservatories that can be constructed, for the expense incurred. L.

Richmondville, Mich., April 3, 1963.

How to Prevent the Curculio from Destroying Plums.

A perfectly reliable man that lives in this vicinity, was telling me a few days since, how he manages to raise plums.

He says just as the trees are coming into full bloom he takes a ragged stone and bruises the bark well in the crotches of the trees, and leaves the stone there. That, he says, arrests the gum which will exude from the wounded place, and prevent its going to the fruit, thus cutting off what he supposes to be the food for the larva. He says he has tried it for many years, and never fails when the trees blossom, except when he neglects to bruise.

There are some sections where it is deemed impossible to raise plums. A gentleman in Detroit told me that there was no use to try them; that even the woods were alive with curculio.

My informer says, do not be afraid of hurting plum trees by bruising them; he says the more they are bruised the better they will bear.

Now, my friends, try some of your old lazy plum trees give them a regular trouncing and report results. L.

Richmondville, Mich.

What Should be the Average of Cheese per Cow?

Eds. Country Gent.—In your issue April 9th, your correspondent "D." calls attention to the Dairy article of Mr. Goodale, Secretary of the Maine State Board of Agriculture, and is rather "inclined to doubt the correctness of the Report." Let me say here, that I have carefully examined the article referred to in Mr. Goodale's report, and in my opinion, it is one of the very best papers on the subject of the dairy that has been recently written; it is in every respect a most thorough, lucid, and admirable article, and "certainly will do good."

For the benefit of D. and others, it may be well to say, that the Country Gentleman of March 19, page 185, did not quite give the exact language of Mr. Goodale, and hence your correspondent infers that Mr. G. states the average of Herkimer County Dairies to be 600 pounds per cow.

Turning to Mr. Goodale's report, page 78, he says: "When I was in Herkimer Co., N. Y., during the past season, some dairymen assured me that their herds of forty to fifty cows, averaged a yield of six hundred pounds of cheese each, without extra feeding, while at good pasture; that with extra feeding upwards of seven hundred, and in rare instances, eight hundred pounds to a cow had been realized. Others told me that the better half, or third, or quarter, of their cows produced 600 pounds each, &c., &c." It will be seen that this language conveys an entirely different meaning from that alluded to by D.

The quantity of cheese that can be averaged per cow, will depend on the goodness of the cows, the manner they have been wintered, their pasturage during summer, the skill in manufacturing cheese, together with other and various circumstances connected with the dairy. In this vicinity on Utica slate soil, it is no *extraordinary* feat to get an average of 600 pounds per cow, with good cows, *fair management*, and under the practice of sending cheese to market at 25 to 30 days old. The writer has accomplished it in his own dairy, and can point to others in his own immediate neighborhood who have repeatedly done the same, and without the use of grain too, except the usual spring feeding.

Mr. Fish of Winfield, Herkimer Co., is reported in Evans' Manual, page 102, as follows: "In 1844, his cows averaged 700 pounds, and in 1845, 775 pounds of first quality of cheese during the respective years." These statements we believe were furnished by him (Fish) for the New-York State Transactions. We have not the data at hand for getting at the average yield of cheese per cow in Herkimer and Oneida counties, and it is not proposed to question the statement of D. that it "is not 350 pounds to the cow," for there is much poor land, many poor cows, much bad management, and many unskillful dairymen, scattered over these counties. Probably the average yield is larger in the best dairy neighborhoods, and on the best dairy lands; but if it is not, then there is much need of "turning over a new leaf," and such articles as that of Mr. Goodale's are calculated to bring about a better result.

We have constantly urged upon the dairymen the selection of good cows, their careful treatment, that the milking be performed thoroughly, and that there be skillful manipulation in the manufacture of cheese. Whenever the dairyman finds that 350 pounds per cow is all that he is averaging from his herd, he may rely upon it that there is error somewhere in his dairy management, which he ought to ferret out and correct; for no dairyman should allow his average to sink below 500 pounds per cow, and he should strive constantly to have it reach 600, and even 700 pounds. Misstatements of course may do harm, but we cannot believe that harm is done in fixing upon a high instead of a low standard for the dairyman to reach, in the *quality* and *quantity* of his dairy products. And we hope every dairyman who may read this, will look higher than an average yield of 350 pounds per cow from his herd, for at those figures it is not a very paying business, "one year with another," on lands like those in this vicinity, whose market value is $100 or more per acre. X. A. Willard. *Little Falls, Herkimer Co.*

COST OF FENCING, &c.

Eds. Co. Gent.—A writer in your issue of March 12, upon "Fences, their Cost, &c.," opens a very important and interesting subject, which may be profitably extended.

The vast sum of $144,000,000, which he states to be the cost of fencing in New-York, is startling and astounding, and so enormous as to deter individuals from even an effect at reformation. And yet, if reform is effected at all, it can only be done by individual skill and economy.

With a view of placing upon record, and by bringing the subject more directly home to the readers of your excellent weekly journal. I take the liberty of sending you a plat and calculation of the amount of fencing and cost necessary to enclose and divide a well cultivated farm of about 250 acres, and which was prepared for me some years ago by one of the most experienced and reliable practical surveyors in the section of country in which I reside, and with a view to the very subject under discussion.

[The plat or map of the farm exhibits the size and shape of the lots into which this farm is divided, showing that there are eleven fields—eight of them containing from 24 to 31 acres each, two with about 14 acres, and one of 5 acres. The writer goes on to say :]

To enclose these lots requires 2,103 perches of fencing, or *six and one-half miles and* 23 *perches.* Worm fence, with the proper stretch, requires 2 pannels per perch—32 pannels of post and rail fence equal 20 perches, and about 33 pannels of trunnel fence equal 20 perches.

To the above data I add the following estimate of cost of the different kinds of fences, viz.:

4,206	pannels worm or zig-zag fence, at 50 cents a pannel, ..	$2,106.00
3.369	do. post and rail fence, at $1 per pannel..........	3,369.00
3.475	do. trunnel fence, at 50 cents per pannel, ...	1.737.50
2,103	perches of stone fence, at $1.25 per perch, ...	2,628.00
2,103	do. plank fence, at $1 per perch, ...	2,103.00

This estimate, of course, to be modified by the cost of material in the different sections of country to which it may be applied. For the stone fence I have only estimated the cost of erection, as the clearing of the land often compensates for the hauling to the line of fence.

The trunnel fence, with good stakes and riders, it will be seen, is decidedly the cheapest fence, and when well put up, of good materials, makes a safe and lasting enclosure. I have a line which has been up about twenty years, and has cost me nothing, except an occasional resetting of the stakes and adjustment of the riders. It also takes less space than the worm or zig zag fence.

It will also be seen that the cost of enclosing and dividing such a farm, according to the kind of fencing adopted, is a little over $2,000—say in round numbers $2,000—upon which the farmer loses the interest, $120, or in other words, has to pay himself an annual rent of $120 on account of fencing, first cost. To this it would be just to add a fair percentage for removal and repairs. If this be put at only 3 per cent., the farmer thus has to pay himself an annual rent, on account of fencing, of $180 per year.

The question then presents itself—how best, and in what manner can this annual rent be lessened? A reduction of one-third of this annual rent would in the aggregate be a great public blessing; one half a still greater blessing, and its entire abolition perhaps enable the farmers of the country shortly to pay off, as they will in the end, either directly or indirectly, have to do, the enormous war debt of the nation.

A sad tale, Messrs. Editors, hangs over the location of this beautiful, well divided and well cultivated farm. Its fencing gone, its happy and contented labor scattered, and its substantial mansion, where plenty and hospitality were formerly dispensed with a generous hand—if standing, only remains to mark the spot from whence annually went forth the surplus productions of a productive soil to contribute to and swell the great aggregate of our country's wealth and resources—and for what?

A MARYLAND FARMER.

HORSE MANURE, PLASTER, &c.

Messrs. Editors—A few days since I received the accompanying letter, with a request that I should answer the inquiries through the columns of the Co. Gent. I cheerfully comply with the wishes of the writer. The letter is dated

Lowell, Vt., Feb. 16, 1863.

To Levi Bartlett—Sir: Will you do me the favor to give an article on horse manure and plaster, through the columns of the Co. Gent. First. I wish to know if it is not a great waste to throw out horse manure and let it dry up, and more so to have it thrown into a heap and have it heat and burn through, as it usually does in nine cases out of ten. When my horses stand for two or three days on the bedding that is well saturated with the manure and urine, it gives off a very strong, pungent odor. Now it seems to me, that it is of much consequence to retain the escaping gases, especially where much grain is fed. I have my horse manure spread in winter, so that it does not heat.

Secondly. Is there any way to improve the quality of plaster for manurial purposes by saturating it with urine, or leaching it with the same, and saving the liquid to use separately? In case a quantity of urine was leached through a cask of plaster, how would you use it? And on what crop?

I think the saving of the liquid portion of the manure of our farm stock is a matter of much importance to the farmer. I have been so impressed with its value as a fertilizer, that I have built a cow hovel with a cellar under it, and am so well pleased with it, that I shall cement the bottom and sides, and turn my kitchen slops into it the coming season. By answering the above questions, you will much oblige a brother farmer. Jos. C. Parmenter.

Remarks.—It must be a wasteful practice to throw out horse manure, and let it "dry up," or be drenched with rain or melting snows, and no good farmer will suffer such waste. It is a far better plan to mix it with the less fermentable manure of cattle. But if the owner of horses has no cattle, the manure of the horse-stable should be mixed with muck, loam or sand, and trodden by swine so compactly as to prevent heating. It is a great waste to throw the manure of horses into heaps, and suffer it to heat and fire-fang. In such a process, a large portion of the valuable gases are evolved and escape into the atmosphere, and are lost. Where the bedding used consists of straw, refuse hay, or sawdust, the tendency to overheating of the manure when thrown into a heap, or dropped into a cellar, is very great; and if no precautions are taken to guard against this heating process, the value of the manure is greatly lessened. By the admixture of absorbents, the urine may be saved, over-fermentation prevented, and the quantity much increased, and the quality of the original manure preserved.

Thousands of farmers now use partially dried swamp muck, mixing it daily with the fresh manure; this absorbs the urine, and prevents overheating, and they are satisfied that the expense of procuring the muck, &c., is a good investment. But then it is not every farmer that has muck on his farm; but he can profitably use something else for a substitute.

Harvey Dodge, Esq., of Sutton, Worcester Co., Mass., one of the best and most enterprising farmers of that county, makes great use of the subsoils from his ditches for composting, &c. He says, "no material equal to this subsoil can be used for the improvement of the surface soil. I have used the subsoil as an absorbsent in all my yards, and in my barn cellers for the last five years, not from *necessity*, but from choice. The value of the subsoil may be tested in the pig-pen, sink-drain, cow-yard, or stable. It shows itself possessed of five times the power of taking the ammonia that surface soil has."

Every farmer that has *surface soil*, has beneath it *subsoil*, and there can be but little doubt Mr. Dodge's example may be safely practiced in the use of many kinds of subsoil.

We also have high authority for saying, that sand may be profitably used for bedding for farm stock, and composting with manure. Mr. Chenery, of the "Highland Stock Farm," of Belmont, Mass., a prominent and well-known farmer, "claims to be the first man in Eastern Massachusetts that introduced the use of sand for bedding for his cattle. He has used it for six or seven years, at the rate of 100 ox cart loads a year." That farmer must be badly located who cannot obtain either muck, subsoil or sand, to use as bedding for his farm stock, and for absorbing the liquid portion of his manure.

In regard to Mr. P.'s inquiry respecting plaster and urine, we would say, that if plaster has a good effect upon his soil, we think the better way to use it will be to daily sprinkle some in his hovels, and let the plaster and urine go into the manure heap, if he has sufficient absorbents to take up the liquid portion of the manure. Urine, leached through a cask of plaster, if in a partially fermented state, might contain a small per centage of sulphate of ammonia as it came through, and perhaps there might be some in the plaster. If so, the urine and the plaster might be profitably applied to the wheat crop. But there is considerable labor attending this *leaching* business, without corresponding returns.

Warner, March, 1863. L. BARTLETT.

HIGH MANURING AND ROTATION

Messrs. Editors—I am thinking a few suggestions upon high manuring and rotation of crops would not be uninteresting, to some of your readers at least. A radical change from slip-shod farming to thorough manuring and rotation, would renovate many a worn-out farm, (which gives small pay for the labor bestowed upon it,) and not only make the owners of such farms richer in real estate, but larger crops and more money will be the result. Grass should be the staple crop of the New-England farmer, for a large mow of hay fed out on the farm, will give a large quantity of manure, which every farmer requires to increase the productiveness of his farm and to secure to him a remuneration for his labor. The farmer who plants a large breadth of land with a small quantity of manure, is becoming poorer in respect to his land, which is becoming more sterile, and in regard to his pocket, for he gets small pay for his labor. By the prac, tice of thorough manuring and judicious rotation of crops the farmer is sure to prosper if he is not improvident and extravagant. On the other hand ruin is almost sure to follow, and the farm to be covered with a mortgage, the redemption of which will be a hopeless affair. Why will not the farmers of the land awake to their interest in this matter? Why will they pursue a course which is detrimental to their pecuniary interests, and which gives the face of mother earth a dejected appearance? A good sward, with 12 or 15 large cart-loads of manure spread upon it and plowed in, will give a heavy crop of corn, provided there is a little fine manure put in the hill to give it an early start. The sward and manure together, will very much increase the fertility of the soil, and good crops for a number of years will be the result.

An increased production of crops causes an increased production of manure, which Mr. Josiah Quincy has said is the most profitable crop he raises.

Hon. Horace Greely, in an address at an Ag. Fair in Western New-York, said: "The poor man cannot afford to grow small crops, for the reason that he is not compensated for his labor, but the rich man can afford to do it, and if small crops must be grown the rich man should do it."

Farmers of the land, which will you choose, *Fertility* or *Sterility?* The one will make you prosperous and independent; the other will bring disappointment and ruin.

Deerfield, Mass. JAMES CHILDS.

ON HARROWING CLAY LANDS.

MESSRS. EDITORS—Much has been said, and far more written, on the subject of plowing, but I have never seen an article or heard a discussion on Harrowing. Yet I think harrowing requires as much science, or rather the use of as much common sense as does plowing. If harrowing is done at the right time, it often saves immense labor afterwards. Farmers on *stiff soils* ought to take their harrows to the field at the same time they take their plows, and harrow what is plowed as soon as it is in a proper state to pulverize. It will often happen that the land plowed in the forenoon should be harrowed in the afternoon. Once going over then may save rolling, cultivating, rolling again, and harrowing again, and then not be in as good a state to sow or plant as if only once harrowed immediately after plowing, or as soon after as to be in a state to pulverize properly.

I know that as good, if not better, corn can be raised on our clay soils, as on any other land in the State, if we only use the harrow at the right time; but if clay land is plowed in a *moist* state, and some of it, of course, must be plowed so, and then lies unharrowed until it dries, one may as well harrow on a paved street, and nothing can grow.

Farmers who have never worked clay soils may think what I write is all nonsense, but farmers on clay soils, if they can be pursuaded to try harrowing about as soon as they have plowed, will find an immense saving of labor, besides much better crops. Farmers generally hereabouts are in the habit of plowing the whole field or fields for wheat, barley or oats, before they ever use the harrow. This is all wrong.

Another great mistake farmers commit is in using their harrows for years without having the teeth sharpened. On all stiff soils the teeth ought to be sharpened once a year.

I have for many years thought of writing an article on harrowing, but better late than never, and here it is at last. JOHN JOHNSTON. *Near Geneva, April* 26, 1863.

P. S.—We have fine growing weather at last. Fields green, but those that are liberally manured by far the greenest. J. J.

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Couch or Quack Grass and Potatoes.

MESSRS. EDITORS—I send you my account of clearing one acre of ground of quack grass, which had become so bad with it as to nearly destroy all growing crops on it. It was plowed in the fall of 1861, and cross-plowed last spring. The crop of 1861 was peas and oats—very poor. My spring plowing was done early in May, about the 10th. It was dragged and furrows struck with a plow one way, three feet apart, and marked the other with three feet marker. I then had one man and woman 2¾ days each, to clean out the quack at the intersections of the marks before planting, which cost me $3.44. I then planted as usual with cut potatoes, with about a spoonful of plaster on each hill, my principal object being to clear the ground of quack and to know the cost. At hoeing time I plowed twice through each row, casting the earth from the hills with a single plow. I then set my men to work, and showed and instructed them to hoe for quack and take care of the potatoes, and shake out by hand every root of quack they could find, and take time to do it as clean as possible. The roots were laid in heaps, which were carried off the field in baskets, and composted in a manure pile. I had six or seven wagon boxes full. Potato hooks were used instead of hoes.

I have been very particular in keeping the time of the first hoeing and removing all the quack. I did so merely for my own knowledge, and should not have troubled you with it, had it not been for what I consider an extraordinary result of good clean and mellow cultivation.

Cost for cleaning out the hills before planting.	$3.44
16¼ days hoeing and removing quack, at 75c.	12.19
	$15.63
Deduct say $2.25 for ordinary hoeing,	2.25
Extra cost for quack	$13.38

I planted [illegible] kinds of potatoes in 4,840 hills—just one acre. Two bushels and about half of Garnet Chili,

Which yielded one bushel to each 15¼ hills,	Bushels.
Peach Blows, 17 hills to the bushel	59
Mercers	108
Prince Albert,	15
Door-yard,	6
	218

I have now been farming twelve years, and this is the best yield and the largest potatoes that I have ever grown. I had one Chili potato that weighed three and a quarter pounds when brought from the field; Peach Blows of two pounds each, and am fully satisfied that I have a yield of one-third more than I would have had by ordinary cultivation, which will more than doubly pay for taking out my quack. My Garnet Chili's were full two weeks earlier than my Peach Blows. The quality of my Chili's I think as good as the Peach Blows.

The soil, a gravelly loam, has had no manure in eight years past. AL. VAN VOAST. *Pond Grove, Schenectay.*

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CONFINING SHEEP IN WINTER.

MESSRS. EDITORS—I noticed an inquiry in your March No. of THE CULTIVATOR—"Do sheep do better confined to their yards when the ground is bare in winter, or to be allowed a good range of pasture with what hay they will eat, and a small allowance of grain?"

As E. F. wished to have some wool-growers give their experience on this point, I will write a few lines. In the first place, I am aware that sheep like to get to the ground, and will spend most of their time grazing if allowed to run at large. But as far as my experience has been it only injures them. I never let my sheep get to the ground from the time I take them up for winter quarters, until there is good feed in the spring.

I know of some that will turn their sheep out as soon as the grass begins to start in the spring. This suits the sheep very well, for they love to get a green bite, but in getting this they lose their appetite for hay, and what is carried out to them they will run over and eat a little of the best, and then off they go for the green trashy stuff which only tends to weaken them. Consequently they will shrink and grow poor, being exposed to the April storms. They hardly ever come up to be sheltered as long as they can find a dry knoll to sleep on.

After the grass gets up so they can get good living, they begin to thrive, and what is the consequence? The consequence is when shearing comes their wool can be more easily pulled than sheared.

Now I keep my sheep in tight yards (well littered,) where they can go under sheds. In stormy weather I shut them under the sheds until after the storm, and keep them dry as possible. When the grass is large enough for them to get a good living (without hay or grain,) I then turn them out, and when shearing comes I have to shear the wool from my sheep instead of pulling it. I know of one farmer that has let his sheep graze all this winter; as he had a large run for them he thought they would get a living, and they have and look well to all outward appearance. But Mr. Editor, I fear they will next spring remind him of an owl. You know the owl looks plump and fat as long as his feathers are on. But pick them off and you find a small carcass. And when he comes to shear he will learn the folly of letting sheep take care of themselves. They will remind him of the plate in the Almanac you sent us with THE CULTIVATOR, showing the difference in sheep that are wintered under cover and without cover. So keep your sheep from the ground in winter. C. A. J. *Livonia.*

Principles Involved in the Application of Artificial Manures.

During the last few months, a large number of persons have addressed letters to us here, asking numerous questions in regard to the value and proper use of artificial manures. With your consent, I would make some of these questions the subject of a few practical remarks in your paper. And in order to abbreviate as much as possible, the questions will be answered without asking them, leaving the reader to infer the question from the nature of the answer.

I. The principal resource of the farmer in maintaining the fertility of the soil, is to be found in a *proper husbanding* of all resources for the prouction of stable manure—all vegetable matter not sold off the farm should find its way through a manure yard (into which no water comes except that falling directly from the clouds.) And except in very peculiar circumstances no artificial manure should be purchased until this is done, and found to yield an insufficient quantity of plant food to the crops the farmer would raise.

II. All land not recently limed will be benefited by liming, but land under constant cultivation cannot be maintained in a state of fertility by the use of lime alone; on the other hand, lime may be entirely dispensed with in agricultural practice, by purchasing proper artificial manures. Which to purchase, *lime* or *artificial manures*, must depend upon the cost of each. If lime can be had for five cents per bushel delivered in the field, as it can be had in our valley here, it never can be entirely supplanted with artificial manures; it should be used in quantities of from 75 to 150 bushels per acre, applied in the autumn and upon top of the soil, to be covered by winter snows and washed down into the soil during the winter.

If on the other hand, lime costs about 20 cts. per bushel, it should be used much more sparingly, and artificial manures should be used instead. If it costs much over 20 cts. per bushel, it should be dispensed with altogether. From 20 to 35 bushels of lime per acre, put on a short time before putting in a crop, would be sufficient where it costs so much.

III. Plaster of Paris, salt, or any other manurial substance may be used, if on trial it gives a good result when first tried; such substances never "poison" or injure the land. It is the crops raised that injure the soil, by exhausting it just as grain sold from the granary lessens the total value of grain left in it.

IV. Green manuring improves the value of land, and may keep it up for a long time, but cannot alone maintain its fertility always. Whether or not it should be resorted to depends upon the value of land, labor, artificial and natural manures, and of the produce of the land.

V. Artificial Manures. Agricultural science has long proclaimed, and agriculture is fast coming to admit, that in order to make up for the immense quantity of manurial elements sold off the farm in meat and grain, there must be a restitution from sources external to the farm, and hence the necessity for artificial manures, as guanos, ammonia salts, phosphates, &c.

VI. The only correct and practical method of ascertaining the value of an artificial manure, is by chemical analysis. The recommendations of those who have used a bag full, or a dollar's worth, for a single year, are of no value whatever. Even prolonged experiment upon a large scale in any department of nature, is very unsafe as a source of correct information, when not carried out with the aid of scientific knowledge. The absurd idea of the potent influence of the moon upon the various operations of agriculture, which, in times past, has been entertained by our good, honest, well-meaning Pennsylvania German farmers, has time and again been tested to their full satisfaction by them. The idea is the *child* and the *fit representative* of agricultural experimentation in unscientific hands.

VII. It will afford the farmer no practical benefit to get either his soil, or plant ashes, analysed; and if well done, it will cost from $20 to $50 for one analysis.

VIII. Raw bones afford phosphoric acid and nitrogen to the plant. Burned bones and Sombrero guano afford it phosphoric acid only. The phosphoric acid in Sombrero guano is not so easily dissolved as in bones, hence not quite so valuable, but if once dissolved by an acid, as in superphosphates, it is precisely identical for all purposes with that dissolved by acid from raw or burned bones. It is much more difficult to make a raw bone than a burned bone superphosphate, hence all the raw bone superphosphates I have seen are failures, and therefore it would be much better to purchase pure ground raw bones than such superphosphates. None of our Pennsylvania manufacturers have yet succeeded in getting raw bones ground as they should be either to use alone or to make superphosphates. A Boston firm recently sent us a bag full of very finely ground raw bones, a splendid article, but sold at $60 per ton.

IX. Prof. Mapes' notion that phosphoric acid, lime, &c., that has been in an organized being once, are better fitted to enter other organized beings than the same substances prepared direct from minerals, is an absurdity. I have never refuted it, because I never met an intelligent farmer who did not consider it absurd. Prof. Johnson of Yale College, has seen fit to dignify it with a sober refutation in a late number of the COUNTRY GENTLEMAN; those who wish to see so self-evident an absurdity refuted, can do so by referring to that article.

X. Ground raw bones are often terribly adulterated with salt, sulphate of soda, and other trash. We now have in our laboratory, a barrel of stuff bought for us in Philadelphia by a farmer, as pure ground raw bones, which is adulterated to half its weight with comparatively worthless matter.

Sulphate of ammonia and nitrate of soda, though excellent manures for wheat, are too costly for general use. Good Peruvian guano is a cheaper source of ammonia for plants, but this is also very expensive.

There is no source of potash at all generally *accessible* to the farmer, except in wood ashes. Care should be taken to preserve all wood ashes (stone coal ashes are worthless) and all soap suds, in order to bring the potash in them upon cultivated land.

XI. Bad manures can only be driven from the market by an increased scientific knowledge amongst farmers. Several methods might be adopted to aid ridding the market of them. Farmers might refuse to purchase without a legal guarantee as to chemical composition—or a state chemist might be appointed, to (among other duties) examine the different manures in the market and report —or an act of Legislature might be passed in each State, making it a penal offence to sell superphosphates, bone dust, &c., with less than a specified amount of certain elements they should contain.

The misfortune now is that farmers persist in purchasing trashy mixtures, the composition of which they know nothing about, in order to "try them," and they are tried in such manner as can lead to no correct conclusion as to their value. Thus the most conflicting results are obtained by different farmers; results often depending more upon the season, the peculiar method of cultivation, or the state of the soil, than upon any good or bad qualities of the manure. So long as this is done, the market will be filled with trashy manures, and they will render it more difficult to introduce good ones.

The above subjects afford themes for extended treatises rather than the desultory remarks devoted to them, but they will it is hoped, meet some of the questions proposed.

Agricultural College, Pa.. April 24, 1863. E. PUGH.

HEDGE-TRAINING IN MISSOURI.

Editors Country Gentleman—Please permit a new contributor to offer a few suggestions through the columns of the Country Gentleman, in regard to the cultivation and training of the Osage Orange for hedges. During a residence and sojourn of eighteen months in the State of Missouri, I saw a system of training put in practice, which appeared new to your correspondent, and may be will prove so to many of your readers, yet it secures the desired end. The desideratum to be attained in the growth of live fences is a thick and impenetrable base.

We will not enter into detail as to the preparation of the hedge-row before planting, as no one who is at all conversant with good farming, and knowing what they want and how to secure it, will ever plant a hedge without first putting the ground in good condition to receive the seed or young plants.

Let the seed (if good) be planted where the hedge is to be, from six to eight inches apart in the row; or they may be planted in a convenient spot where they can be transplanted to the hedge-row without cutting back, as the first year's growth, a single upright shoot, is necessary in forming the base. If the seed are planted in the hedge-row, all spaces (if any occur) may be filled by plants.

Having the hedge filled with plants of one year's growth, provide a good thick pair of leather mittens to protect the hands from thorns, and then commence at one end by taking the tops in hand and bending them to the ground, at the same time giving them a twist and interlacing them at the base of those next adjoining, which are likewise bent and twisted like the first, and bound down to the ground by those following, which are also treated as the former ones, until all are twisted and lying on the ground like a huge rope.

The time of laying down may vary in different localities. In the more northern sections the fall is to be preferred, as the young plant will thus be protected from the effects of severe weather; but farther south the spring is equally as good, say any time before the buds start. The advantages of this system will, I trust, present themselves to the reader at once. Shoots are thrown out in every conceivable direction, and all of strong and healthy growth, being from eyes and buds, thus forming a dense impenetrable and perfect base, upon which a hedge, worthy of the name, may be erected at little expense thereafter, which shall give the owner perfect security against all intrusion from domestic animals, however breachy they may be.

Wherever I have seen the above method in practice, a good hedge is the sure reward of the proprietor. It is not uncommon to see in Missouri a base of four feet in thickness the first year, but in the Northern and Eastern states such growth cannot be looked for, yet wherever a hedge is practicable, the above method (in the mind of your correspondent) will prove successful, with whatever kind of plants it may be set.

Let me offer one more suggestion, especially to those who have a sort of skeleton hedge, which entirely fails to perform the part designed for it. Let it be cut entirely away close to the ground; the roots will send up shoots which may be treated as above, and prove equally successful as if set with fresh plants. Samuel Avery.

Du Page Co., Ill., April 13, 1863.

COAL TAR FOR SEED CORN.

Eds. Co. Gent.—Lest the experience of Mr. Clizbe, (p. 266,) should discourage the use of coal tar for seed corn, I will state that I have used it for the last ten years or more, with perfect success. It is probable that those who have been in the habit of using pitch tar, would use more than was necessary of the coal tar, as the merest coating is a sure preventive against birds and squirrels, and I doubt if gophers will attempt to eat a second kernel covered with it. I put the corn into a kettle of water, and allow it to heat slowly until it comes near to the boiling point, when I pour in a very small quantity of coal tar, and stir the whole until the corn is covered with the tar. A person unaccustomed to the use of it will be astonished at the rapidity with which the tar leaves the water, and spreads itself over the corn. I think one gill would cover a bushel, but I use about half a pint. My rule is to use such a quantity as will completely cover the corn, without causing the kernels to stick to each other when dry. And here let me remark that if only the requisite amount of tar is used, there will be no *necessity* for covering the corn with plaster for convenience of planting, provided it is spread out to dry; but if required for immediate use, I simply drain off the water and stir in plaster.

With the use of pitch tar I have noticed that birds would pull up several kernels each, before feeling satisfied to leave the field; but upon adopting the use of coal tar, I was pleased to find that their instincts were considerably sharpened, for after lighting down once or twice upon the field, and walking about awhile, they give it up altogether. P. B. Tyler. *West-Haven, Conn.*

CURE FOR RHEUMATISM.

I take the opportunity of returning my sincere thanks to you in behalf of my "better half," for a very simple receipt I discovered in my "Cultivator" for 1861, which consisted in the use of Potato water for rheumatism. My wife suffered over four years with rheumatism in her shoulders, especially after doing the family washing, until I discovered this simple but most valuable remedy. The first night she used the Potato water rather lukewarm, and assured me of its benefits next morning, and that she hardly felt any pain in the shoulders, which encouraged us, and we renewed the application the following night before she retired, using the potato water as hot as she could bear it, and rub the shoulders as hard as she could, and the effect was that she never, since the last application, now about fourteen months, has had the slightest pain of rheumatism in her shoulders or any other part of her person.

Many persons in this country, especially miners, are afflicted with that malady, and I have requested many to try the remedy, but they regard the value of "Potato Water," in the same light as a great many do the "*Brandy and Salt*" cure, viz., drink the brandy and rub the afflicted part with the bottle. Then again both these remedies are so cheap they cannot be good. Jacob Fritz.

Fort Walla Walla, W. T.

The following is the recipe referred to in the above:

"Bathe the parts affected with water in which potatoes have been boiled, as hot as can be borne just before going to bed; by the next morning the pain will be much relieved, if not removed. One application of this simple remedy has cured the most obstinate rheumatic pains."

WAYSIDE NOTES.

Messrs. Editors—When in the midst of pursuits quite different from those of Agriculture, the welcome face of the Country Gentleman makes its regular appearance, it seems as if common courtesy demanded that I should take my pen, and acknowledge my obligations for its many good teachings, so valuable to the community as well as to myself. Indeed, it is difficult to suppress the old half-editorial habit of contributing an occasional remark by way of criticism or approbation, upon the many interesting topics constantly under discussion in your columns. Possibly the fact that I returned last evening from my farm in Exeter, New-Hampshire, where I witnessed anew the beautiful operation of my experiments in tile-drainage, has assisted your paper, which I find on my table this morning, to awaken my old enthusiasm for agricultural progress.

And now, if you can find a little space for me, what better can we do with an hour of this wet morning, than to talk over socially some matters which interest your readers and ourselves.

A Word about Drainage.

The system of drainage with tiles as practiced by the English drainage engineers, is perhaps as near perfection as any department of agricultural improvement can ever become, and there is little difference in the application of its principles to English and American soil. Very little skill is required to drain land with tiles for a time. Indeed I have never yet seen a piece of land so badly tile-drained, that it failed to satisfy the proprietor. By and by, however, the difference between careful deep drainage and careless shallow drainage, will be apparent, the former being permanent, and the latter temporary. My drains at Exeter, laid from four to seven years ago, usually four feet deep, are as perfect as at first. I observed but one spot where there was any failure. There was some obstruction, and the water had burst up to the surface, and was running down a side-hill quite merrily. It was in a place where we had graded down the surface, after laying the drains, and so reduced the depth. These breaks, which may occur in the best work, by a defective tile or a stray frog or mole, can be readily detected, and by opening a trench with a spade, may be repaired in a very few minutes. This is one great advantage of tiles over stones, that the former may be easily repaired, while a stone drain once filled with sand, can only be relieved by great labor. By thrusting down a bar, a skillful person may ascertain within a foot or two, in a tile drain, where the obstruction occurs, as the water will rise higher above than below it.

My drained land, which formerly bore cranberries naturally, and could not be plowed, is now fit for an early market garden, yet never suffers from drouth.

A Little Talk about Sheep.

On the seat with me in the car, sat a fine looking young man with the hard hands of a laborer. Thinking I might gather some useful information without much trouble, I made inquiry of him about the state of affairs "down east." He informed me that he "worked out" most of the time, and owned some pasture-land in Franklin county, in Maine; that the country was never so prosperous as at present; that traders, lumbermen, and farmers, were all doing well; that there was more lumber cut the past winter than any other year for five years. He said that sheep are altogether the most profitable stock, and that everybody was keeping them, mostly at present for fine wool, but he agreed with me that the coarse wools and mutton were now more profitable. He says they get from 75 to 90 cents per pound now for wool that formerly brought but 25 or 30, and confirmed the opinion of most experienced agriculturists, that no stock improve a pasture like sheep. He owns a pasture of eighty acres, on which he pastures three hundred sheep, from about May 10th to nearly December, and thinks the best way is to have no shades trees in the pasture, so that the sheep will leave their manure evenly over the land, which they will not do if there are shady places. The people in that country frequently have a small shed, which is moved from place to place by cattle in the pasture, in which their sheep find shelter from the storms, and by moving this shed, and by keeping salt in different localities, my informant said the sheep would be persuaded to go where it was thought best to have them, and that in about seven years a pasture or run-out field would be made rich enough for any purpose, by feeding it constantly with sheep. He spoke with good courage of the war, and said that his two brothers were in the service, and that all the best young men of the town where he lived had gone; that the minister had volunteered as a private, and gone with the company to take care of them, and had recently received a lieutenant's commission, and that he had instructed them so well how to take care of themselves, that at the last accounts, when they were above New-Orleans, not one of their townsmen had been ill a single day. This young man said that he got what education he had, by walking to a high school three miles off, and I should be proud to introduce him to any foreigner as an illustration of what New-England common schools and true republican ideas can do for a community.

Agricultural Colleges.

It should not be forgotten in any State, that the last Congress at its first session, granted to each State, upon certain conditions, a quantity of land equal to thirty thousand acres to each member of Congress, to be applied to the support of at least one College for the promotion of education in agriculture and the mechanic arts. This gives to Massachusetts 360,000 acres, and to New-York more than a million acres. Whether New-York has yet appropriated this fund, I have not observed. The subject is now before the General Court of Massachusetts. All parties are united in opinion that the grant should be accepted, but the details for the plan of a college are not so easily arranged. The subject deserves careful consideration in every State, as it will be found that many practical difficulties will arise in executing any scheme.

Where are teachers to be found? This will be the first question. Where are men qualified by education and taste and habits of life to fill in each State the various departments of a college that shall be distinctly a college for the purposes indicated in the grant?

Governor Andrew, in his inaugural, recommends that the grant of Congress and a large fund known as the Bussey fund, bequeathed with two hundred acres of land near Boston, the whole valued at $250,000, may be in some way united if possible with all the other instrumentalities, that Harvard College could lend, to establish in Massachusetts, an institution of the very first rank, both to teach practical agriculture, and to prepare teachers to supply the demand which will soon be made for them.

Here at home, we do not hesitate to say to each other, that Massachusetts ought to take the lead in this matter. Perhaps it may not seem modest to suggest this view to the people of New-York. At least, we will try to establish the model agricultural college of the country, and if New-York can excel us, we shall rejoice in her success.

Who are to be students at such colleges, is a question to be considered at the outset, because it is in vain to establish schools, except upon a plan which will so accommodate the wants of the country, as to fill the classes. The highest agricultural schools in Ireland, where the system is pretty thoroughly in operation, are for the education of land stewards and farmers. The land in Great Britain being owned in large tracts by noblemen and gentlemen, who have not taste or leisure for personal attention to their estates, stewards are employed to manage them, and they should be good accountants, and practical business men. The farmers are those who have farms varying from 100 to 1,000 acres or more, and who need a practical training for their business. In this country we have no need, or very little, of stewards, but our farmers do need a training such as agricultural schools may afford. This however is but a lower branch of education in an agricultural college. Although we do require that existing knowledge should be diffused, as is done by our common school system so admirably, we should aim still higher, and devise means to increase the amount of knowledge, to make new discoveries in science, to systematize all that is already known, and then to add to the sum of it. To this end we need the very highest ability in the country to construct and manage the institutions in question. We may then attract to them not only those who intend to work, but those who desire to devote their lives to scientific research in the departments of agricultural and mechanical science.

It is to be hoped that these colleges will not stop at becoming mere manual labor schools, but will take rank with the highest literary and scientific institutions of the world. If the COUNTRY GENTLEMAN will keep its readers advised of the progress of the present agricultural colleges of New-York, of which we have from time to time had accounts, it may aid other States in forming their plans of operation under the grant of Congress.

A committee of the Massachusetts legislature has recently visited the Agricultural College of Pennsylvania, and brought back a very favorable report of its operations.

The liberality of our commonwealth in all matters pertaining to science is well illustrated by the recent appropriation of $10,000 for a catalogue of Mr. Agassiz's Museum of Zoology, which is said already to contain the best collection upon this continent.

But our hour I fear is already exhausted, and we must postpone the many topics that a glance at your paper suggests. Very truly yours,

Boston, April 16, 1863. H. F. FRENCH.

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[For the Country Gentleman and Cultivator.]

CULTURE OF HUNGARIAN MILLET.

EDITORS COUNTRY GENTLEMAN—My impromptu communication on Hungarian Millet, in the GENT. of the 23d inst., has given rise to many inquiries of me, relating to my soil, cultivation, quantity of seed, time of sowing, &c., and perhaps I had better, with your permission, say a little more on the subject, and try and answer such questions as may suggest themselves to those interested who have read the GENT. referred to. In that article, I only intended to answer the sweeping charge of *humbug*, as applied to what I deem a very valuable farm product, and all the statements there made are true, but I would not carry the idea, that such a crop could be produced on any variety or condition of soil. I spoke only of my own experience, and described substantially my own soil. I have seen other crops as heavy as mine, raised in the vicinity of this city, but they have all been on bottom lands or alluvial soils, near Buffalo creek or other streams, and I have seen small patches of the same Millet, on high worn out lands, which did not succeed well. My conclusion is, that bottom lands or prairie soils are the best adapted to the growth of the crop spoken of, but I really know but little of it, further than my own experiments. My soil was not manured, but it was good, and I do not believe that poor soil would produce a heavy crop of Hungarian, or any other valuable product. My experience all points in that direction.

I have never seen evidence that Hungarian exhausted soil more than any other crop of equal value. I have never discovered a way to get a heavy crop out of the ground, without exhausting the ground accordingly, although I admit some difference in crops in regard to that matter. I never could get something from nothing, or a great deal from very little.

Without carrying this subject farther, I will try to answer a good many questions in a short way. I am aware of the value of space in your columns. My advice regarding the cultivation of Hungarian Millet is as follows:

Prepare the ground as for oats or spring wheat. Do all the dragging before sowing. Sow from 12 to 28 quarts per acre, as you desire your hay fine or coarse, as the quantity of seeds between these points will not increase or diminish the crop. After the sowing a very light wooden tooth drag will do—but if the ground is in the right state, (dryish,) a roller is better. If the soil is fine, and you can sow immediately before a heavy rain, neither dragging or rolling is required.

Sow whenever it is the right time to plant corn. It is like corn, and will not grow until corn would, and frost will kill it as quickly. Time of harvesting—ninety days from the sowing.

It will not do to sow it as a seeding crop for other grasses to follow, for if it grows as mine did, it will over-top and so shade the roots, that it will destroy everything else there, even weeds.

I have never known of more than one variety of Hungarian Millet, but I have noticed a difference in the color of the seed. The seed of mine was more than one-half black or brown; but I have been told that the soil made the difference. I do not know this.

The foregoing remarks embody answers to all the questions I have been asked by letter or otherwise.

In regard to this matter, I repeat what I before said to the Editors, that I have no personal ends to serve, and my desire is that they use perfect freedom to publish or not, as they think may best suit the interests of their readers. I have no other object than to contribute my ability to serve the interests of agriculture, and when my silence will serve it best I am quite content.

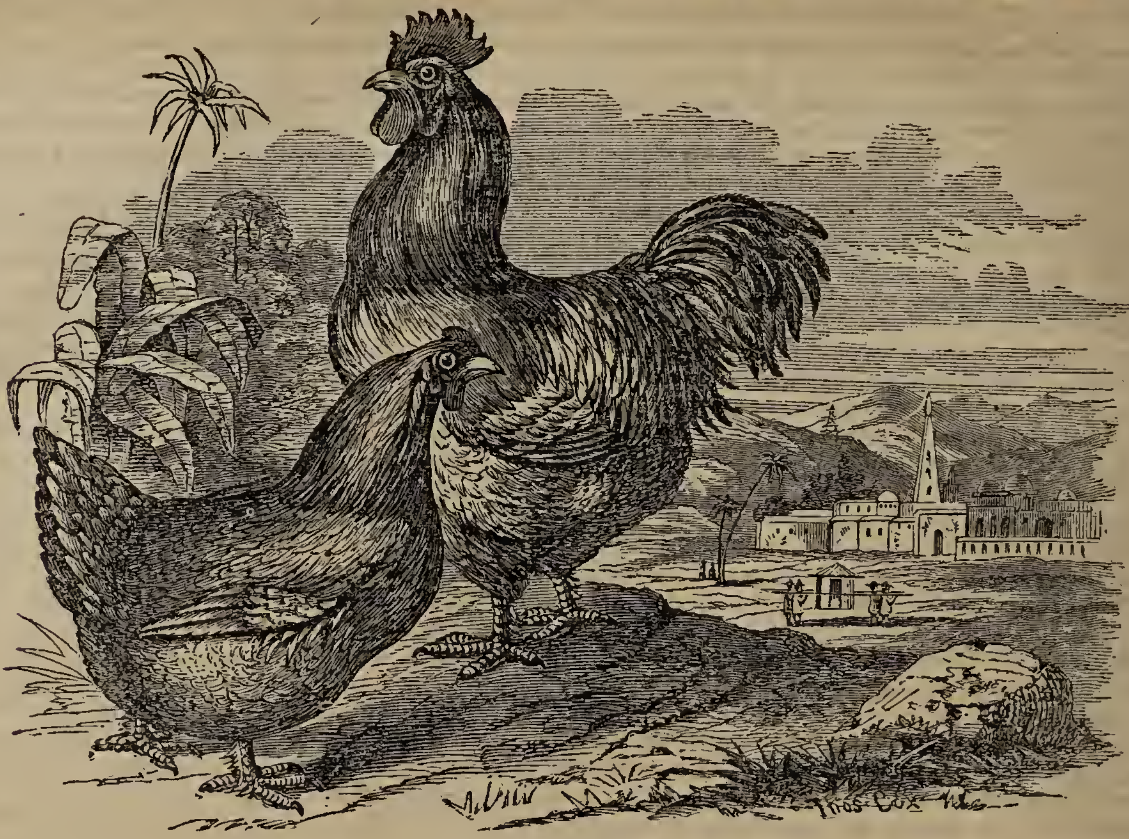
Buffalo, April 25, 1863. HAMPTON DODGE.

* * *

Over-Feeding and Care of Hens.

"E. C. K." says his hens did not lay, that he kept them on short allowance for a short time, that then they began to lay again, and asks for other's views on the subject. I have kept hens for a number of years, and speak from experience. The first winter that I kept hens I had the same trouble with mine, and took the same course after killing six of the fattest, which dressed a little over six pounds each, although when I bought them in the fall they weighed a little over three pounds each. Hens of all breeds but the White-faced Black Spanish, will take on too much fat if fed high, and will stop laying. The Spanish, when full or half-blood, can be fed as high as one pleases, and will lay the more eggs the better they are kept; but must have a warmer place for winter than any other breed that I have tried. I have about thirty-four of them now, which I have kept as follows: I have fed them with corn, barley, oats, and buckwheat, keeping two or more of the above named grains before them in a box about six feet long, two wide, and the sides three inches high, but mostly the latter, with a little corn. In addition, they have had two or three good heads of cabbage each week, all the fresh meat they would eat, and two quarts of meal scalded, with about five large iron spoonfuls of finely powdered oyster shells weekly, also a box of old plaster pounded up, by them all the time, of which they have eaten nearly a bushel since the 1st of Dec. last. During the winter I gave them about once a month, a peck of small potatoes, with about ten small onions boiled and mashed up with meal and shorts in equal parts, to keep them from getting lousy. The result at the present time is, that I have sold nearly double the value of eggs that it has cost to keep them. I have not cleaned out their house since last December, and do not think it the best plan to clean out the droppings, as many recommend, but put in one corner of the house as much fine loam as I think will do for the season, and every week or two throw about an inch and a half of the loam over the droppings, first sprinkling on a half peck or more of ground gypsum; the method will keep down all the ammonia, and give a fine lot of manure in the spring. I might add that my roosts are suspended from the top of the house on wires, which I keep well covered with kerosene oil, and that I have not been troubled with lice at all.

One word about poultry houses. I think a good framed house is the cheapest in the end, and that I should as soon think of having my barn on wheels as my hen-house, as the use of loam as above, gives a fresh surface for the hens, which they must have to thrive well. I do not find a floor of any use, but rather a detriment, as I have found that the less wood the hens come in contact with, the less likely they are to be troubled with lice. BROOKS. *West Boylston, Mass.*



COCHIN CREEPER FOWLS.

[For the Country Gentleman and Cultivator.]

COCHIN CREEPER FOWLS.

Vermont has long been famous for her fine sheep and superior breed of horses, and now she claims no little credit for the improvement of the denizens of the poultry-yard.

Considerable excitement, we are told, was manifested in this section a few years ago in regard to the subject of domestic fowls, and it is a marvel that for so long a period so little interest should have been manifested on this subject. The intrinsic value of a hen being so small, and the facility of multiplying her progeny so great, has perhaps furnished one reason why the subject had been so slightly considered. But progress seems to be the order of the day, and improvement in domestic fowls, as well as improvement in the more costly and valuable stock of the farm, seems to have attracted public attention.

Shanghais and Chittagongs must now hide their heads, (and *shanks* too,) in obscurity, for they have formidable rivals in the Cochin-Creepers. No longer will they walk in leisurely possession. but mope away, and any one may see that

> "As runs the market crowd,
> When catch the thief resounds abroad,"

So will the *taste* go after the Cochin-Creepers—those large bodied, short-legged, useful fowls and capital specimens of the feathered race.

But to return to the Cochin-Creeper, the subject of this notice. Early in January we purchased of a neighboring farmer, a pair of chickens, and when cooked and placed before us, their round plump bodies, full breasts, short joints, white, fine-flavored meat, attracted our attention, as being somewhat different from the large sized fowls, and this led us to ascertain, if possible, to what breed or family they belonged. The size (5¼ pounds, dressed) did not indicate them as Shanghais, nor their full breasts as Chittagongs or Cochin, nor their short legs as the Dorking, but the five toes did betray Dorking blood; and the short legs told plainly of Creeper relationship.

We now set ourselves about to ascertain their whereabouts. Inquiring of a man who was hauling wood for us we learned that they were bred by a farmer near him. We engaged him to procure a trio, a fair sample of the stock, that we might see them with our own eyes. A few days afterwards he brought us the required number, two hens and a young cock bird. The hens were said to be two years old, and weighed respectively one 6½ and the other 6¾ pounds—the cock 6¼ pounds when 6 months old.

We now felt more anxious than ever to see the stock and learn their history, how they were bred, etc, and for that purpose we visited the farmer and elicited the following, which we give in his own words: "I formerly kept," said he, "the common fowls of the country, generally called dunghill or barn door fowls, a small, wild, unprofitable race. About ten or twelve years ago I commenced improving my stock by introducing a Dorking cock into my yard. I bred to him two seasons. I then disposed of him and all the young cocks and all the old hens, selecting and retaining the best pullets for breeders. I then purchased a Shanghai cock, and after using him one year, and finding his produce rather coarse and loggy, I disposed of him and substituted a medium sized Cochin China cock, using him two years; then a large sized Creeper cock, for the same length of time. By this cross I obtained a fine lot of pullets, about one-half of which were on short or creeper legs; these I kept for breeders. Having got all my stock on short legs, I returned to the Cochin and then bred to him—the produce is what you see before you, about one-half large bodied, short-legged fowls—hence the name of Cochin-Creeper.

"As market fowls and winter layers," continued he, "I have found these Cochin-Creepers, taking them in every particular, the most profitable fowls I have had or ever saw among my neighbors, who have kept many more different sorts than I have; but I always have eggs when they have none. If they hatch in March and April, they will begin to lay in October, and keep on laying till June, and some of them will lay till July; and then when done moulting they will begin to lay again in December, or before, and lay as long as they did the first year, and as well. I have no doubt they would do well the third season, but I keep them but two. I clear off all the young cocks before they begin to interfere with the hens, so as not to have them breed in any further than one cross. For market or for table I have never found their superior, being of good size, and dress beautiful yellow. I consider them healthy, hardy, easy to keep, and in all respects a desirable and valuable fowl."

The aim now should be to establish permanency of character; and to establish a new variety it will be necessary, to some extent, to breed "in-and-in," if it is wished to perpetuate the desired qualities, and to give that fixedness of type and uniformity which is of great importance. Some breeders, however, think that breeding "in," and then "out,' produces the best results. By breeding "in" and then "out," is meant breeding an animal into the same family from which it sprung, and then into a family of the same breed, several degrees of relationship removed from it. But this is not sufficient; care must be taken to select those birds that bear the closest resemblance to the model fowl, including form, size, color, quality and docility. It should be borne in mind that in determining the character of the offspring, it is found by experience that the influence of the male is greater than that of the female.

The merits of the Cochin Creeper fowls can not fail to recommend them to persons in city, village or country. Whether as egg producers or meat, as sitters or as nurses, they are said to be unrivalled amongst all fowls. In the latter, they are said to shine pre-eminently. For with their great weight, unless nature had endowed them with singular care and tenderness for their young, they would tread half of them to death; whereas it is found that not a single chicken is lost from that cause. If the farmers who have no yards for separate breeding, would supplant all others with the Cochin Creeper, it would not fail to increase their income.

These observations are not addressed to those who are prejudiced against, and do not keep fowls, but to those who at present keep bad ones, with a view to encourage them to get good ones.

Our figures at the head of this article, with few exceptions, are pretty correct representations. The legs of the Cochin Creepers are somewhat shorter; the body of the hens is larger, tails fuller, longer and more elevated. The legs of the cock are shorter, tail longer, fuller and more erect, and shows the rudiments of sickle feathers. C. N. Bement.

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[For the Country Gentleman and Cultivator.]

HENS PLUCKING FEATHERS.

I have been trying, for the first time in my life, to have eggs through the winter, and with good success. But one thing has troubled me. My hens began to pluck feathers early in the fall, before they were shut up, and have continued till now. I have killed those which were the worst. They have done no damage except in destroying their beauty. They break off a large part of the feathers instead of pulling them out, so that they have a frowzy neglected or abused look. I have a beautiful lot of hens, a cross between Game and smooth-legged Bantam and Chittagong; the last neither pull feathers, nor allow theirs to be pulled; but the others would pick up a feather sooner than corn. They are fine layers, active, and beautiful, but I do not like their habits; they are too uneasy. One or two of them have had the gapes this spring, and I do not know what to make of it.

Portage Co., Ohio. A. J. HART.

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[For the Country Gentleman and Cultivator.]

IMPROVEMENT IN DRYING FRUIT.

Vol. 20, page 207 of the Country Gentleman, gave us an article headed "Best Way to Dry Apples." The writer advised stringing up the apples, piece by piece, and hanging on a movable frame, to be placed either in the sun or before the fire, according to the weather. This sounds strangely; certainly it is queer advice for an experienced man to give at this day. It will not do for farmers now to fall back on the drying-kiln, or suffer their families to spend their time in drying fruit in the sun or before the fire, while a sure, cheap, and expeditious mode is open to them.

A good dry-house, (indispensable to every farmer,) may be built for fifteen dollars, which will dry from one to two bushels of apples, each 24 houses, the quantity dependant on the size of the house and of the fruit. When dried, the fruit is in good order, white, clean, and free from scorch, at the same time perfectly dried. With a regular fire, peaches will dry as well as apples; indeed the dry-house is available for all fruits, large or small, nothing more being necessary in drying corn and small fruits than to spread some thin old muslin in the drawer to prevent falling through between the slats of the drawer. With this simple addition to the drawer, the dry-house is far ahead of the stove-room, with the willow baskets or drawers, as described by Mr. Clarke, vol. 20, p. 109, being more simple, cheaper, and more expeditious.

If we, as farmers, would live well and comfortably, we should put up all the green fruit possible, and dry plentifully of apples, peaches, quinces, plums, and by no means neglect the sweet corn. Buckeye.

Our correspondent will greatly oblige us by furnishing our readers with a full description of his dry-house, with the details necessary to enable any one to carry the plan he recommends into operation.

THE CULTURE OF THE HOP.

Eds. Co. Gent.—I noticed a long time ago, some inquiries about the culture of hops. I have a telegraphed hop-yard of five acres, which was picked last year for the first time. In this yard the rows are 7 by 8 feet apart—the widest way north and south, to admit more sunlight between the strings. In some of the wired yards the rows are only 6 by 7 feet apart; but so far I consider the 7 by 8 the best on several accounts.

When I got my roots, the man I got them from told me that five bushels was enough for an acre. Roots were very high that spring—worth $1 per bushel. There is a great waste in cutting them, for they are more or less torn, bad roots, that is impossible to get two good eyes on a set, and it requires five sets to each hill. Why I speak of roots is, that it is very essential you have plenty of *good roots;* unless they are good it will take more than five bushels to plant an acre.

There are several kinds of hops extensively cultivated in this part of the country; the best is the Grape or English cluster; the old fashioned one hop some still consider the best, but the pickers like the cluster best.

I have a new yard set which I am intending to balloon, that is, to set a long pole, say twenty-two feet long, on every other row and every other hill; run seven hills to one pole; then set short stakes, about six feet long, at each hill, and a string running from the top of each short stake to the top of the long pole for the vine to run on. This is as cheap a method as can be done; some think it is the best on several accounts.

One other manner, aside from the old stand-by way of setting two poles to each hill, is to have one wire for three rows, and a short stake to each hill, then a string and hook to fasten to the wire; use strings for the middle row; use No. 8 wire; this is called tenting, not as expensive as to put two poles to each hill. I am almost out of conceit of poles; some say it is the most natural. I consider it the most unnatural way, because the vine requires tying several times to make it run up the pole; and on strings all that is to be done is to just start the vine on the string, and no wind can possibly blow it off.

About the yield, price, &c. Last year was an uncommon good year for yield and price. An average crop is from 800 to 1,500 pounds per acre, although last year some yards went as high as 2,200 pounds per acre; the largest share of the hops sold for 12½ cents per pound from the grower; it runs according to the price, from $150 to $500 per acre. I sold mine for 22 cts. per pound in New-York. I had a light crop.

I consider it a good investment for a farmer, *providing he continues the business.* I don't know of a man who has raised hops for a series of years, but is "well off," and some of them have made from $50,000 to $75,000. There can be a good deal said on the culture of hops that would be interesting to your readers, if I had the "nack" of telling it. William Rhodes.

Babcock Hill, New-York, April 17, 1863.

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Northern Spy Apple.—L. Wetherell of the Boston Cultivator, stated at one of the Agricultural meetings in that city, that the Northern Spy had been raised at Acton and had been sold at *five dollars* per barrel in Boston, and second pick for $4, when Baldwins sold for only $1.25 per barrel. He said they were better than any he had ever seen in Western New-York.

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New Pear.—James Oliver of Lynn, Mass., (a well known amateur fruit culturist, and whose ingenious mode of converting dwarf pear trees to standards we published last summer,) furnishes us an account of a new pear which he calls the *St. Crispin*, and which was raised by Israel Buffum in that city. It is 20 years from the seed, and bore last year about two bushels, "all fine and fair." It is a fruit of great beauty, texture like the Bartlett, and equal to it in flavor, but keeping longer, or 3 to 4 weeks after gathering—specimens sometimes weighing 14 ounces.

VALUE OF HUNGARIAN MILLET.

Editors Country Gentleman—While perusing the Gentleman of the 26th ult., I was astonished to read what F. R. B. says about Hungarian grass, classing it among the humbugs of the day. He has either had but little experience, or results have been very different with his crops to what mine have been. I own a farm, and have sown Hungarian grass every season of the last four, and have never failed to have tremendous crops during the time. I can show positively, that I have raised five tons of cured hay to the measured acre, and the ground on which I raised that quantity of hay had not been manured for years previous.

I own in my business a good many horses, and many of them I have wintered entirely on Hungarian hay, from December to April, they having not a mouthful of any thing else, and in all the wintering of horses that I ever did, I never had them do as well or look as well in the spring as those.

I continue to sow Hungarian, and now consider it the most profitable grass crop that I can sow. I have no other object in writing this, but to correct what I consider a great error, not knowing how, or why, it was made, and for the sake of right I cannot allow such a statement to pass unnoticed. His land may not have been well adapted to its growth, or it may not have been properly sown or cultivated.

My farm is a flat, mucky soil, with a stiff clay subsoil, below the depth of the plow.

I think this wholesale denunciation of so valuable a farm product is not right. I would willingly give any further particulars to any one, who thought worth while to address me on the subject. Hampton Dodge.

Buffalo, April 11, 1863.

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COUGH IN SHEEP.

Messrs. Editors Co. Gentleman—Observing in your number for April 9th, a subscriber from Montpelier, asking for information or remedy for cough in sheep, I wish to say that I have had a few cases similar to what he makes mention of. He says he tarred their noses, gave sulphur, and neither gave any relief. I should not think they would derive any benefit from such treatment, for it is evident that the cough must be brought on by a cold which settles on the lungs. Therefore, it is an inside disease, and must be treated accordingly. As I said before, I have had a little experience with it, and I give my remedy for what it is worth.

I take one teacupfull of linseed and boil with one gallon of water until it becomes sufficiently thick, and when nearly cool give to one sheep about one quart daily, first thing in the morning, by pouring it out of a bottle into the sheep's mouth, taking care not expose to all the storms that come, or rather keep them in comfortable quarters providing any such weather should arise—as I think good care and nursing is about as good as all quack medicine.

I had a Leicester ram taken with the cough same as Subscriber's, as near as I can tell. He crossed the Atlantic in March one year ago. After I got him home I gave him linseed tea daily, and I found a great improvement in the course of a few weeks, and before the summer was over he was perfectly recovered, and I got stock from him in season of course. He being a valuable one, I gave him great care, never allowing him to take cold a second time, as I considered he took cold on the ship in the first place, and which settled on the lungs; but taking it in time, before it was allowed to progress too far, it was subdued. A great deal depends on the party that has the management of the flock—one who has a quick eye that can detect a disease before it goes too far. When a complaint becomes a fixture, a remedy is hard to find, it being far more easily arrested in its first stage than when of long standing.

I consider linseed one of the most useful things a farmer can grow, for there is scarce any thing but what is fond of it; and as it is of a cooling and easy digestive nature, I look upon it as one of the things that no farmer should be without, and at the present time the fibre must come more and more into use, as cotton is advancing in price.

Norval, C. W. JOSEPH KIRBY.

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PLANTING POTATOES.

Your columns of late have been so often enriched by articles on the "Culture of the Potato," that I fear you will consider another contribution upon the same subject, tiresome. But a correspondent, B. J. Campbell, inquires "how to prepare the seed of the Garnet Chili potato for planting." Now, his own experience last spring may give him a key to the true theory. If planted in hills 3 to 3½ feet each way, in no case should more than *four* eyes be put in a hill. If planted in drills 3½ feet apart, *one* or *two* eyes placed 12 to 14 inches apart, is sufficient. There is a difference in varieties,—some require more seed than others. The Garnet i not a favorite of mine, but I have raised it for three years, and have always treated it the same as other varieties, with the same result as to size. If a good potato, planted on proper soil at the proper time, and well cultivated, produce small ones, you may rely upon it there was *too much seed.* My manner of cultivation differs somewhat from the practice of some of the "potato kings" of our country, but I have uniformly been successful, and rarely raise small or diseased potatoes.

Batavia, N. Y. P. P. B.

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Coal Tar for Seed Corn and other Purposes.

I always keep a barrel of coal tar on hand, considering it one of the most useful articles a farmer can have, painting fences and gates, doing over flat roofs, (of which I have several,) and for various other purposes. I find nothing more effectual in preserving posts, by giving the part which goes in the ground a couple of coats of hot coal tar.

Three years ago I had a couple of acres of corn taken up by some "varmint," upon which I thought I would try my grand panacea, coal tar. I warmed a small quantity, say a half pint, poured it on a half bushel of seed corn, and by stirring coated every grain, then sifted ashes enough on it to cover or coat the grain over, which makes them easy to handle. Since that time I have had no trouble; the crows and squirrels pull up a few, but soon become disgusted and abandon the business. T. V. P.

Mt. Carmel, Ohio.

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A PROLIFIC HEIFER.

Messrs. Editors—Major John D. Leland of Deerfield, Oneida Co., N. Y., has a thorough-bred Durham heifer which will be three years old the 3d of June, and which has already added four head to the number of his stock. When two years old she had a pair of twins, and a few days ago had another pair of twins. Capt. P. Cook, the careful herdsman of Mr. Leland, a gentleman of extensive experience with cattle, wishes to know if any of the cattle breeders in this State can beat his heifer in productiveness. J. E. Morgan. *Deerfield, N. Y.*

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Cure for Scratches in Horses.

After washing the parts with soap suds—letting them get thoroughly dry—take one part of sulphur, and two of lard, mix them well together, and annoint the parts. This I have known from my own experience, to cure the worst cases of it. It will also cure greasy heels, which I consider worse than the scratches.

EASTERN DUCHESS.

I have not seen any report of the past season, from this part of the State. I propose to supply it very imperfectly. We had expected the statistics of these towns to be collected, but no blanks have been received, so far as I have heard.

The season has been, in general, a prosperous one for farming, and most other labors. It was rather too wet from the fourth of June till the first of September, which lessened the corn crop some, and injured the quality of the hay, though the quantity was increased. Oats had a great growth of straw which was lodged, but the grain was scarcely an average, and light, not weighing more than 25 or 26 pounds a bushel. The wheat (which is winter wheat) has been an average yield, say about 16 bushels. Potatoes a fair crop, not much raised for market. Of apples a boundless quantity. Increased attention is given to other fruits. Our largest income is from the grass crop, which goes to market in the shape of beef, mutton, wool, butter, and milk. The past season has been favorable for these products.

This valley, through which the Harlem railroad runs, extends through Pawling, Dover, Amenia, and Northeast; a part of it is called the Oblong. It is a large part gravelly loam (drift,) though there is great variety of soil, most of it in a good state of cultivation and very productive.

The style of farming has changed in this valley, as in other parts of the State. Sixty years ago wheat was the principal staple, and was largely exported. When this began to decline, the farmers raised more largely of corn and oats, and turned their attention to fatting cattle. The corn was turned into pork, of which great quantities were carried across the county to Poughkeepsie. A little later, wool growing became the leading business. The number of sheep in these four towns, in 1835, was 63,695, improving the land and adding to the wealth. After the completion of the railroad, the production of milk for the New-York market became the most extensive business. It is not only directly the source of the greatest revenue, but it gives a home market for all the grain raised here, and for other farm products. It is probable that in no other way can a grazing farm be made to produce so great an income, as by the sale of milk. Some serious objections to the business are obviated, by the introduction of a plan of condensing the milk, which is done at Wassaic, where from 6,000 to 10,000 quarts of milk a day are condensed, and a part of it prepared with sugar, so that it may be kept any length of time. This establishment gives employment now to about forty hands, and the business is increasing. The price paid for milk, to those who send to New-York, and to those also who sell at Wassaic, is two cents a quart in the summer, and three cents in the winter, and the average annual income from the cows is not less than fifty dollars a head. In many dairies it is much more. It is necessary to a good profit that the cows should be well fed, and it is usual for the milkmen to feed to their cows, in winter, all the grain raised on the farm, and in many instances they buy. Sowed corn also affords a large amount of excellent fodder. The result of this high feeding is an increase of rich manure and consequent improvement of the soil.

Corn is the most important crop of grain raised here, though for various reasons the increased product per acre is not equal to the increased fertility of the soil. One of the chief reasons is the destruction of the crop by the "cut" or "corn-worm," and the muck worm. Following corn is almost universally the oat crop. There has been a falling off in the excellence of our oat harvest for the last ten years, which is unaccountable. On all land which is as rich as it should be for corn, the straw grows rank and falls down, but the grain is light, and yields but thirty or forty bushels, where we used to get fifty or sixty. It begins to be doubted by some whether oats is a profitable crop, especially as it is believed to be an exhausting crop. It would be a boon to us if we could learn the cause of the difficulty, and be able to avoid it, or if we could find a substitute for oats in our rotation of crops. Wheat is not so extensively raised as it should be in this district, naturally so well adapted to it. Some farmers do not attempt to raise their own bread. It is true the yield per acre seems small, and appears to justify the declaration that our lands are becoming impoverished. But it should be considered that it has the poorest chance in the rotation, coming after corn and a rank and exhausting growth of oats; also, that it is only the Mediterranean wheat which is safe to sow, and which never yields so well as the kinds which we used to grow. The average, which I name, is the average of all the years, including those in which the crop was an entire failure. The value of wheat this year, including the straw, is more than thirty dollars per acre, which is better than paying ten dollars a barrel for flour.

There is but very little grain sent to market out of the valley, and very little hay. The coarse grains are purchased by milkmen and teamsters, and extensively fed to fatten cattle, sheep and hogs. The principal sources of income for those not in the milk business are fat cattle, sheep, wool, market lambs, butter and pork, besides wheat, corn and oats (consumed in the district.) The market lambs are mostly raised from fine wooled sheep, crossed with a coarse buck. There is no stock more profitable just now, and even in all the vicissitudes of the wool market, the united product of the fleeces and lambs has made this branch of farming remunerative.

Good farms sell at $60 to $100 per acre. There is just now some interest excited in real estate by the disposition of capitalists to invest their money in desirable farms. N. Reed. *Amenia.*

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Culture of Salsify or Vegetable Oyster.

Will some reader of the Co. Gent., please inform me how to raise the vegetable oyster or salsify, and prepare the same for the table in the best manner?

Butler Co., Ohio. John Earhart.

In answer to the above, we copy the following from Buist's "Family Kitchen Gardener:"

Salsify is a hardy carrot-rooted biennial, a native of the mountain meadows of Switzerland. It is considered wholesome and nutritious, and much esteemed by some classes, under the name of oyster plant, from its flavor, after being cooked, having a considerable resemblance to the oyster. It makes an excellent variety at the table, and forms an agreeable dish throughout the winter season. As the oyster is a very celebrated fish, and many in the interior rarely obtain it, all may cultivate this vegetable, which really makes a near approach to it in taste, when cooked in the following manner: Previous to boiling the roots let them be slightly scraped, and then laid in water for about an hour; then boil them till quite tender. Let them be taken out and laid to drain for a short time, during which a thick batter should be made with the white of eggs beaten up with a little flour. Grate the roots down tolerably fine; press them into small flattened balls; dip these in the batter, and roll them into grated crackers or crumbs of bread; then fry them in a pan till they are of a deep brown color, when they are ready for the table, and will form a very agreeable and even delicious dish.

Culture.—Sow the seed in drills, half an inch deep and ten inches apart, in April, or before the end of May. As soon as the plants are an inch high, thin them out with the hoe to four or six inches apart. Keep the ground clear of weeds, giving them the general culture of carrots. This vegetable is perfectly hardy, and may stand out all winter, though it is necessary to store away a quantity for winter use when the ground is hard frozen. They like a deep, rich soil, and will be in good condition for the table till the end of March.

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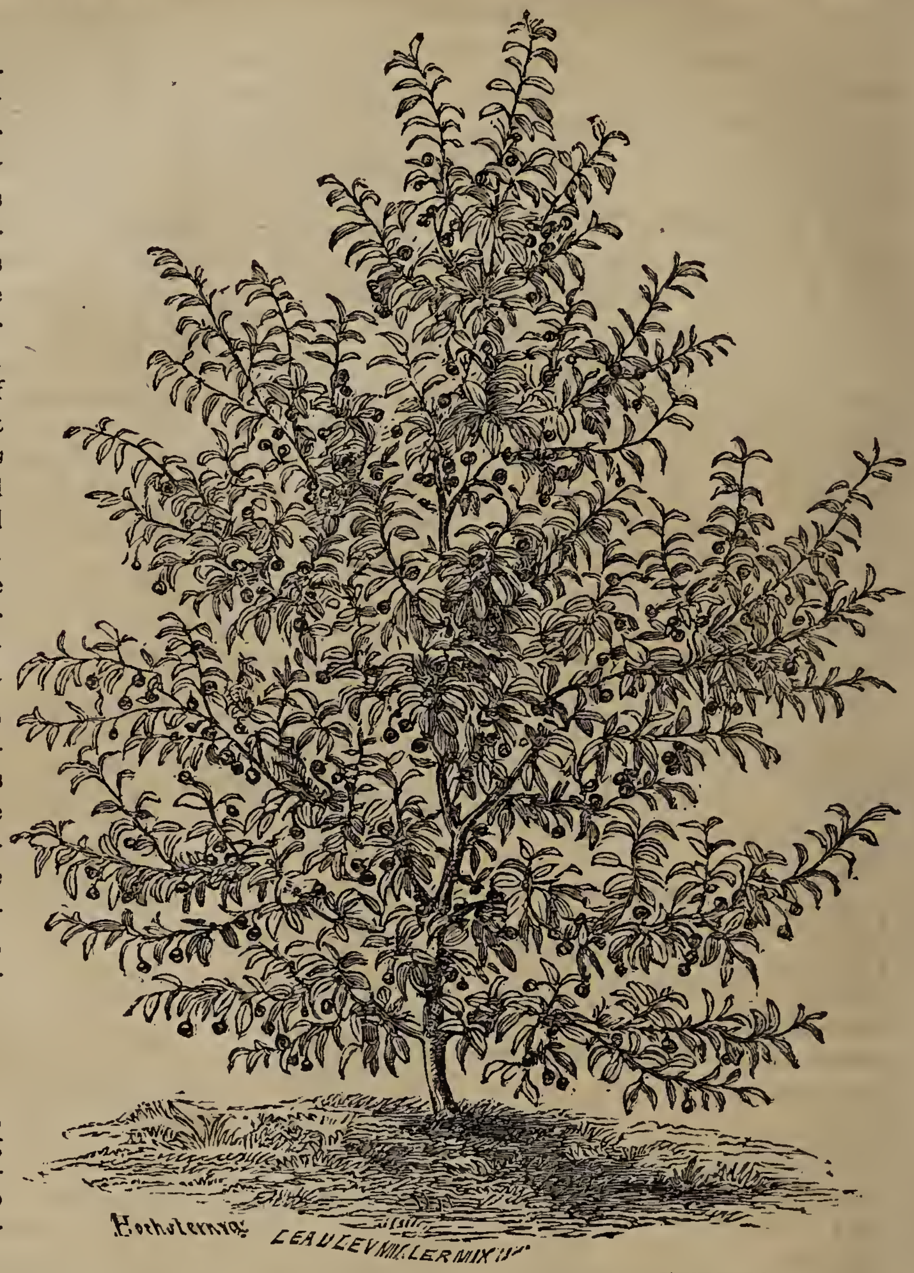
A machine has been invented which is to be driven by the force of circumstances.

DWARF CHERRIES.

These are raised by budding any variety on the Mahaleb stock. For a few years they grow as rapidly as on other cherry stocks, but never attain a very large size. The Dukes and Morellos form the hansomest dwarfs. The Mahaleb has another advantage—it gives greater hardiness and better fits the Heart cherries for heavier soils, and for some other unfavorable influences. The Morello also makes a good dwarf stock, and this is the best and surest way to raise cherries for some portions of the West, where they will succeed in no other way. The Dukes worked on Morello stocks are extremely hardy.

The figure here given, from one growing on the grounds of Ellwanger & Barry, Rochester, (Knight's Early Black, ten years old,) does not show the profuse bearing often witnessed on dwarf cherries, the branches sometimes presenting almost solid masses of fruit. Dwarf cherry trees, on the grounds of the writer, trained as pyramids, are often loaded down to the ground, and are beautiful in appearance, while the fruit is easily picked, without the aid of stools and ladders.—*Tucker's Annual Register.*



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To Destroy Caterpillars.

A quoted writer says:—I took a pan, large and flat, filled it with burning charcoal, and placed it under a tree—then added a pint of rosin, and two ounces of sulphur. The fumes scattered the worms."

A WHEEL CORN-MARKER.

I have noticed some articles in Co. Gent. in regard to corn-markers. I made one last winter, and used it last season with the greatest satisfaction. I use wheels instead of runners, as wheels run much easier for team. I made four drum-wheels, two feet in diameter, and six inches wide, which makes a plain mark four inches broad in plowed ground. The wheels are arranged in a framework three feet ten inches apart, with a tongue for two horses, and a seat for driver, as I hold that a man can drive a team on a line better by riding than by walking, and the team will draw a man on this machine with less fatigue, and walk faster than they will dragging any marker through soft plowed ground. I can mark fifty acres per day with this marker, (I speak from experience,) and make straighter marks than can be made by *runners.*

Hickory Farm, Ill. S. H. W.

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Recipe for Pickles.

6 qts vinegar, $\frac{1}{2}$ lb. salt, $\frac{1}{4}$ lb. ginger, $\frac{1}{2}$ lb. shallots, 1 oz. mace, 2 oz. pepper, 2 oz mustard seed, 2 oz. red peppers.

Boil all together. When cold put in any kind of fruit as you gather, but have it well wiped. I know this to be good, and so little trouble. It is a nice way to make pickles for the sick soldiers. Have a cask with your vinegar prepared, and you save many things which otherwise would be lost, and they are very acceptable to a convalescent soldier.

MARYLAND.

HUNGARIAN HAY FOR SHEEP.

Last spring I had six acres of corn destroyed by gophers. It being too late to replant, I sowed the ground to Hungarian seed June 11th. Cut the same in Sept., and all who saw it estimated it at four tons to the acre. I commenced on the 6th of Dec. to feed a flock of 80 lambs Hungarian hay *once* a day, and oat straw well threshed with a machine once a day. This has been their entire feed save for ten days, when they had low land prairie hay instead of straw. They have had *no* grain, and are all alive and in good condition.

I think they will shear at the usual time of shearing, from five to six pounds per head, of washed wool.

Many think it too rich and oily for breeding ewes. I have seen no evil effects from it, but have fed them but once a day. W. MARKS.

Danby, Ill., March 26.

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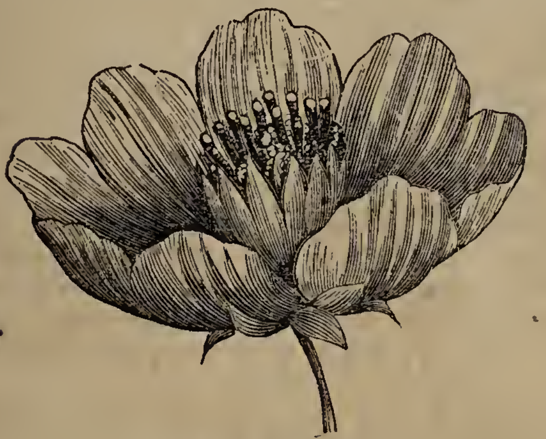
Recipe for Corn Bread.

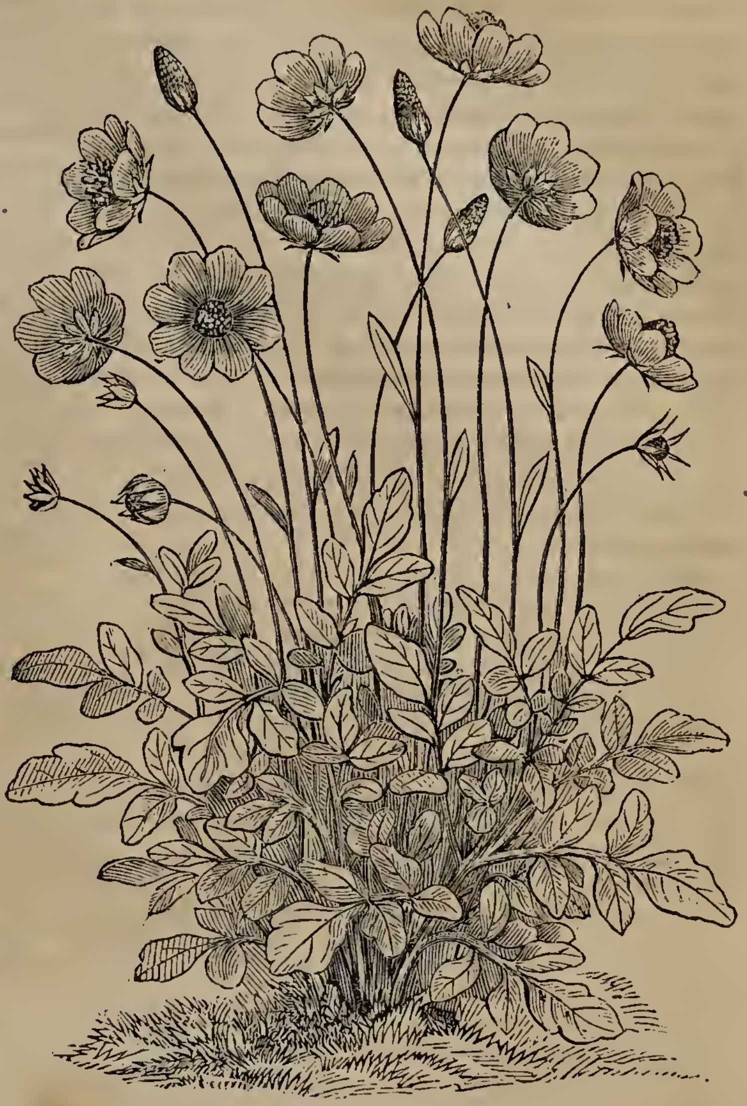
1 quart of *coarse* corn meal.
1 quart sweet milk.
1 even teaspoon of soda.
2 even teaspoons of cream of tartar.
4 eggs well beaten (two will do.)

A piece of butter the size of a walnut—a little salt. Bake with a quick heat, and it will be as light as sponge cake. But remember you cannot make good light corn bread with *fine* meal; it must be ground coarse. MARYLAND.

BIDENS ATROSANGUINEA.



(Flower natural size.)



Bidens Atrosanguinea.

This new flower was first announced in Europe last season, and as soon as flowers appeared colored plates were given in the Botanical Magazine, Belgique Horticole, and Garden Flora, while Ortigies and other florists and botanists, represented it as one of the finest additions to our flowering plants. It was discovered by Roezi in Mexico. The appearance and habit of the plant are similar to the Dahlia, and indeed, at first sight, it would be considered a dwarf Dahlia. The leaves are very similar, and the flowers resemble a small, single, dark colored Dahlia. Roezi named it Dahlia Zimapani, but further investigation has proved that it is a Bidens. The plant is dwarfish in habit, growing only about a foot in height, even with the best of culture, branches very much, and blooms most profusely. The flowers are borne on long, slender stems, from eighteen inches to two feet in height; are single, dark velvety reddish-brown, called in Europe "blood-brown," with a cone of disc flowers, like the single Zinnia. The blooms remain fresh for a long time, and our plants have kept up a continual succession of flowers since the first of July. It is thought that a few leaves will afford a sufficient protection to the roots, and in this way it may be preserved, but this is of little consequence, as the seed germinates readily, and when treated like Ten Week-Stocks, or Balsams, commences flowering the latter part of June or early in July.—J. Vick, *in Tuckers' Annual Register.*

POISON CHEESE.

Editors Country Gent.—Dairymen who are using newly painted pails and cheese tubs, should be careful to have them thoroughly and repeatedly soaked before using, with whey and water, until there is no taint or odor from the new paint; otherwise more or less poison cheese may result. Cheese poisoned with lead, extracted from the paint by the milk and whey, and deposited in the curd, is not observable when first made, but during the process of curing it shows itself in dark and discolored particles through the cheese, injuring its sale and rendering it a dangerous article of food. An expert and honest cheese buyer will not touch it at any price. Cheese tubs should be discarded, and their place filled with the improved "vats and heaters." X. A. Willard.

Little Falls, N. Y. April, 9, 1863.

Remedy against Moths.

An ounce of gum camphor, and one of the powdered shell of red pepper are macerated in eight ounces of strong alcohol for several days, then strained. With this tincture the furs or cloths are sprinkled over, and rolled up in sheets. Instead of the pepper, bitter apple may be used. This remedy is used in Russia, under the name of the Chinese Tincture for Moths.

LICE ON CALVES.

Nature is the best teacher. When cattle are pastured they will paw dirt upon their backs and rub their heads and necks against banks of earth, for the purpose of destroying the lice. Moved by this suggestion recently, after having bought a new milch cow which was lousy, I dried some dirt under the stove, pulverized it, and rubbed on the head, neck and such parts as were most affected by the lice, which subdued them.

Two or three applications should be made, and again repeated after the nits or eggs are hatched, as the dirt does not destroy the eggs or nits.

Try it if your calves or cattle are lousy. It costs nothing, and has no injurious effects like poisonous applications which are most in use. George Bachelder.

Stanstead, C. E.

To Cure Scours in Calves.

Take a piece of rennet, and soak as our cheese-making farmer's wives would prepare for cheese, and give, say six tablespoonfuls before the calf is fed. One dose I have generally found sufficient. The same remedy administered in larger doses, will cure the same disease in older cattle.—*Prairie Farmer.*

Some Figures in French Agriculture.

Official statistics have lately been published of the agriculture of France, which we have not yet seen in the original, but they contain some facts which, though they come to us at second hand, appear worthy of note. For the farmer here is interested in watching the progress of farm practice elsewhere, even though the light it may shed on his own pursuit is not of an immediately available kind.

France in one respect affords a parallel to this country—the south producing less, and the north more, than its own consumption of breadstuffs. In good years northern France exports considerable quantities of wheat, flour and barley, beside doing much to supply the deficiency in wheat grown at the south, which latter also receives supplies from Mediterranean ports in other countries.

The area reported as under cultivation in France is divided as follows:

Grain crops,	28.30	per cent.
Other crops,	5.00	do.
Artificial meadows,	5.00	do.
Fallow land,	10.80	do,
Natural meadows,	9.50	do.
Vineyards.	4.10	do.
Chestnut, Olives, Mulberries, &c.,	.20	do.
Pasture and waste lands,	13.50	do.
Forest, water, roads, buildings, uncultivated, &c.	23.60	do.
	100.00	

The agricultural returns given in the United States census of 1860, do not afford any basis for a similar statement with reference to the area under different crops in this country.

As to Live Stock we give below the estimated numbers in France, together with the census returns of the United States:

	France.	United States.
Horses,	3,000,000	6,115,454
Asses and Mules,	730,000	1,129,553
Horned Cattle,	10.094,000	25,640,337
Calves,	4,104,000	
Sheep and Lambs,	35,000,000	23,317,756
Swine,	5,400,000	32,555,267

This would certainly appear to afford room for two conclusions—1st. That the number of sheep kept in this country has been disproportionately small as compared with other kinds of live stock; and 2d. That we cannot have a very large Hebrew element in our population if the consumption of pork may be taken as a fair index on this point. What *can* become of all the pigs!

In France, it is stated that between three-fourths and four-fifths of the sheep are either Merinoes or tinged with Merino blood. But the consumption of wool in French manufactures is so great that considerable quantities are imported in addition to the home production. In 1861, 1,148,168 pounds of wool were exported from France into Great Britain, and 10,605,815 pounds were imported by her from the markets of the same country. And France imports many sheep, as well as cattle, from other countries for their meat—her average imports for consumption from 1856 to 1860 having been 402,000 sheep and lambs and 126,000 cattle and calves per year.

In 1847 there were 5,379,811 hectares (about 13,450,000 acres) under wheat; in 1857, 6,754,227 hectares, or nearly 16,886,000 acres. The crop produced varies widely in different years, having been 186⅜ millions bushels in 1853, and 302 millions in 1857—the latter year having given a greater yield per acre than any other for 15 years past. In 1861 a larger area was under wheat than ever before, but the average crop per acre was smaller. The total wheat crop of the United States is reported in the census returns of 1860, as but little more than 171 millions bushels; and a comparison between these figures and those showing the number of Live Stock in the two countries, affords evidence that our grazing and dairying interests must be proportionably very much larger than those of the French farmers.

The area of France is 209,240 square miles, with a population of 37,382,000 persons, or about 179 to the square mile. In the United States we have an area computed at about 3 million square miles and a population of 31½ millions, being a fraction over 10 to the square mile. In Great Britain by the last census, the density of population is 344 persons to the square mile in England and Wales, and 98 in Scotland.

Among the products not referred to above, the mean annual production of wine in France is now 1089 million gallons. Of this quantity, 67 per cent. is consumed in the country, leaving 33 per cent. for exportation. The beet root sugar manufactured rose from 52,369,000 kilograms in 1847 to 105,482,000 in 1861; and the consumption of sugar, home and foreign, which during the ten years, 1837 to 1846, amounted annually, on an average, to 1,119,830 metrical quintals, and to 1,335,246 quintals for the years 1847 to 1856, rose in 1861 to 2,356,170 quintals.

The quantity of tobacco manufactured and consumed in France rose from 18,753,000 kilogs. to 29,280,000 kil. within the same period, an increase of 23,000,000 lbs.

There is only one article of importance which seems to have declined, and that is silk. The annual average production of cocoons from 1846 to 1852 was 53 million pounds, which had diminished from 1858 to 1861 to 26½ million pounds.

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CULTURE OF HOPS.

The successful cultivation of the hop implies watchful and incessant care during the first stages of its growth. They should be planted upon a warm, deep, loamy soil, on a dry bottom, which is best found upon a sandy, gravelly or stoney porous subsoil, affording drainage from off and about the roots of the plants during the rainy and frozen season of the year. Hops are one of the most exhausting among cultivated plants, both in respect to the organic and mineral constituents which are extracted from the soil. Therefore rotation of crops should not extend more than four years on the same ground, unless the soil is supplied with that which the hops most extract. In comparing the table of analysis, we find that both lime and potash enter largely into the growth of both the plant and hop. The usual mode of planting is to lay out the ground in rows 7 and 8 feet asunder. The best and quickest way to proceed in laying out the ground is to use a horse and corn marker, by having the pins in the marker 7 feet, the distance required for the rows one way. Marking the rows the other way is usually done by stretching a rope the distance desired, at which time the setting is done by the guide of the rope, by setting the hill where the rope crosses the mark made by the corn marker. The setting is done the first of May, by setting the roots of the previous year's growth, called runners, which are carefully selected, so as to get healthy roots, which are cut into pieces with two setts of eyes to each section—setting them with a dibble in the ground, with five setts in a hill, setting one at each corner of a square of 6 inches, and the fifth in the center of the square, all in an upright position, with the eye buds pointing upwards, and all beneath the surface of the earth at least one inch. In the planting there should be much attention paid to the introduction of a sufficient number of the male plants, one hill in two hundred, or about five on an acre. They ought to be planted at regular and known intervals, so that in subsequent years they may not become indiscriminately mixed. The first year planting is usually done with corn, taking care not to encumber the hop hill; the after culture the same as for the accompanying crop of corn. As the corn matures and is fit for cutting up there should be much care taken not to cut the hop vine, which would be very likely to bleed, so as to injure the hill. In the succeeding month of October, or the first of November, there should be placed over each hill of hops at least one or more good shovels of well rotted manure for winter protection, and to enrich the ground for the benefit of the plant the succeeding season culture, which requires more care and watchfulness than the first year to secure a good crop of hops. As soon as the plants make their appearance above the ground the manure should be carefully spread over the hill. Then the poles are introduced, varying from 18 to 20 feet long, with two at each hill, and inserted in the ground in perfectly straight lines upon each row, and incision being made with the hop bar in the ground to a depth required for firmly holding the poles. Then the plowing commences, which is done by one horse, having the plow kept clean, beginning in the center of the rows, turning the furrow from the hill the first time plowing—subsequent plowing the furrows should be turned toward the hill.

The cultivator is used after each plowing, to level and pulverize the earth, which should be kept smooth and level at all times. The process of hoeing the first time is done as near as may be as the first hoeing of corn. The vine is usually tied up before the second hoeing, or as soon as the vine has grown from two or three feet in height; they are tied by selecting two of the most even vines for each pole, the strong rank ones being rejected, and subsequently tied until sufficient strength is acquired in the vine to force itself up to the summit for the production of its flower. The culture in the mean time is performed with the plow and cultivator and hoe, earthing up the hill a little the second time hoeing, keeping the ground clean and pruning the hills. Never suffer but two vines to grow upon each pole, which are preferable to a greater number. It may be here remarked that hops want richness of soil, which should be kept up in order to be a successful grower. Leached ashes is a good substitute for potash, applied to the hill after the first hoeing. When it is found to be important to use lime, it should be well slaked, half of a shovelful thinly applied to a hill in the month of October or the first of November, when lime is used. Muck should be applied to the hill in the place of manure for winter protection. Salt has also been found to be a good fertilizer when the vine is disinclined to run the pole; by making a brine and applying it in small quantity to the hill, it acts like a charm in facilitating the vine in running the pole. I have practically used them all, and found the productions good.

Picking usually commences about the first of September; as the flower becomes hard, with a bright yellow color on opening it, the envelope of the seeds a purple color, and the kernel or seed itself hard, they are ready for harvest. Picking is mostly performed by women with aid of men's help, to extract the poles from the ground, severing the vine some three feet above the ground, and placing them upon a frame over a box, which is subdivided into four apartments, and accommodates as many pickers, with each a box three feet long, two feet deep, and eighteen inches wide, each picker filling the box two or three times during the day, for which they receive from twenty to twenty-five cents per box.

Drying.—The kiln for the operation for drying should be constructed with much care, with stoves, and arranged in a room, and the hops laid and spread upon a cloth floor above, resting upon slats, where they dry in about twelve or fourteen hours. Hops in the green state, if left standing long after picked, are liable to become heated and change color, hence the kiln should be made sufficiently large for curing as fast as picked, at intervals of twelve to fourteen hours for each kiln.

Madison county, N. Y. D. B. SHAPLEY.

GRAPES FOR EVERY FAMILY.

There is no reason why every farmer and village resident with even but a small yard, should not provide for his family an abundant supply of grapes—a fruit liked by every one, and which can be grown almost as easily as the currant. A correspondent of the *Massachusetts Plowman*, thus tells us how he provided for himself and family:

The culture of this delicious fruit is now attracting considerable attention. No fruit can be grown more easily or more abundantly. The process is simple and sure.

I have a splendid vine of the Concord variety, which I put out four years ago, and which produced a large crop for its size last year. I procured the slip, then about eighteen inches in length. I dug a hole about two feet deep and about three feet square, which I filled nearly to the surface with old shoes, bones, pieces of carpets, which were useless for any other purpose, and covered them to the depth of six or eight inches with rich soil, and set out the slip. I watered it once in two or three days. It grew about four feet in the first season. I trimmed off the extra shoots, and thus threw all the strength into two main trunks.

The next year it grew very fast; and I kept up the pruning, taking off all the extra branches, so that the two trunks increased in size very much.

The next (third,) it blossomed very full, but I picked off all the blossoms but two, which ripened into the most beautiful clusters which I ever saw. The fruit was very large, fair and very rich, sweet and particularly juicy. Last year (fourth,) the vine blossomed very full, and the grapes were, as usual, very nice. In November last I gave the vine a very thorough pruning, and I look for an abundant yield the coming season.

With regard to the different varieties, I am inclined to favor the Concord and the Hartford Prolific, with a preference for the former. I have known the native grape cultivated in the way above described, and the fruit is very large and fair, but not so juicy or sweet. It is, however, considered by many to be far superior to any other kind for sweetmeats, and is used for that purpose. It is not good policy to take any southern variety and cultivate here in our short seasons. I know a Catawba which was put out a few years ago, which has produced well, but has never fully ripened, but has continued to ripen earlier every year. The gentleman who owns it expressed to me his opinion that it would so far accommodate itself to the season as soon to ripen before injured by the frost. Every vine should be set out in a warm sunny place, where the north winds do not affect it. The Concord and Hartford Prolific are great bearers, and ripen in the first days of September. I would like to hear from your numerous correspondents upon this interesting and *fruitful* subject.

TURF FOR GARDENS.

Messrs. Editors—The garden is the worst part of our farm to keep in the right condition for a garden, because they have no rest; they are kept up by high manuring, but still there is something lacking in the soil to grow perfect vegetables, and the garden grows lower from year to year by constant use.

When I broke the ground for a new barn, we plowed up large quantities of excellent turf; we put several loads in the hog pen, and then we covered the garden all over about two feet deep, and let it lay until spring, and then plowed most of it under, and such a garden as we have had this year without weeds, was not to be beaten. It appeared to answer the same purpose as stocking our farm lands down to grass, which many of us know is one great secret of success in farming. L. F. Scott.

Bethlehem, Ct.

[For the Country Gentleman and Cultivator.]

MANURES.

MESSRS. EDITORS—In the COUNTRY GENTLEMAN for April 23d, you give a detailed statement of an experiment by R. S. Rogers, Esq., of Oak Hill farm, near South Danvers, Mass., with different manures as a top-dressing of grass lands. From the statement it appears that *green cow manure*, at the end of a three years' course, gave considerably the largest results, compared with those portions dressed with leached and unleached ashes, composted manure and guano. The inference, then appears that green cow manure, as such, "*the droppings of only a few days before*," is superior to the well rotted composted manure, as applied to lot No. 1. From my own experience and observation, I am satisfied that this statement needs qualification, and teaches a more important lesson than is made at first to appear. The fact that green manure gave the largest returns of hay, was not due to its application in a green state, so much as from the fact that it being the droppings of only a few days before, it had *lost less of its most voluable constituents*—those contained in the *liquid portions*, by not being exposed in the yard to the washing rains and bleaching and drying winds, as most stable manures are by a large majority of our farmers. From experiments that came under my observation last summer, the details of which I have already published, and will not repeat them here, I am satisfied that one load of stable manure, either from cattle or horses, when preserved in such a manner as to retain all the liquid portions incorporated with and absorbed by the solid portions, *without waste and adulteration from exposure to the weather*, is worth four loads of such as is made in the ordinary way by nine-tenths of the farmers of this country. If manure is worth saving at all, the only proper manner in which it should be kept is in sheltered pits or barn cellars, so constructed and cemented as to be water tight, and if at any time, there should be an excess of water, let straw, muck, or in the absence of these, turf be added to absorb it. Manure made in this way will not be injured by any reasonable age, but will be found better than that which is applied in a green state. This fact, I think, is made somewhat apparent by the concluding paragraph in your statement, which relates to the application of the manure taken from the pits under the stables of Thomas Horsfall, Esq., in Yorkshire, England.

The result of the application of the ashes, as part of the experiment of Mr. Rogers is also remarkable. There is no application so variable in its results upon different soils as ashes, unless gypsum is an exception. The township in which I write (Southampton) was one of the earliest settled portions of this country. Lands here have been under cultivation for a period of more than two centuries, and in the earliest half of this period but little attention was paid to manure—until the soil would no longer produce without it. Then it was found that ashes produced the most marked results, such as are hardly equalled on soils in any other portions of the country, particularly in the crops of grass and grain. For many years numbers of vessels were constantly employed in freighting ashes from the large cities where soap-making was largely carried on. But it was found that after repeated applications of ashes upon the same soil it ceased to have the desired effect. Bones and other special manures are now largely used. On the limestone lands of Kentucky, particularly in the rich blue grass region, I have never been able to discover that ashes produced the least beneficial effect. These lands are remarkably rich in potash, and other inorganic as well as organic substances.

But to return to the more important part of the subject, viz., that of stable manure. Our farmers are slow to learn the most economical and valuable methods of preserving and applying this. If stable manure, saved in the ordinary way, is worth hauling upon the land at all, the liquid portions, and the employment of proper means to prevent the wash and waste by the action of the weather of the more solid portions are worth many times more, and in most of the older settled sections of the country will well pay the expense of building pits or barn cellars for its preservation. It is not well to build these immediately under the stalls, but at the end, outside, and protected by a roof. The gases arising from the pits under the stalls will not only seriously effect the eyes of the animals, and will endanger their general health, but will injure the quality of the hay stored above.

The experiments alluded to, which were conducted near this place last summer, where of a marked character. Several varieties of manure of the most stimulating kinds were applied to Indian corn, among which were fish, applied in the form of "fish guano," which produces immediate and remarkable effects upon this crop, and stable manure, *liquid and solid* combined, preserved in *brick water tight pits*. The crop of corn manured with the latter was at least thirty per cent. greater than that manured with the fish, while compared with the other kinds used the difference was still greater.

Sag Harbor, L. I., May, 1863. H. P. B.

[For the Country Gentleman and Cultivator.

SCOURS IN CALVES.

Young calves are troubled with scours many times from *local causes*. In such instances the very best and most effectual remedy is to *remove the cause*, instead of administering nostrums of some kind, which only *aggravate* instead of ameliorating their condition.

I will allude to a *few* of the many causes that produce scours in young calves, and then those whose calves are afflicted in this way, may perhaps be able to determine the real cause, and then they will be prepared to apply the true remedy.

If calves have the scours while they suck their dams, we may rest assured that it is in consequence of some local cause. Calves are very frequently confined in a small yard during cold and wet storms, with nothing but the fence or a few loose boards to protect them, and having no comfortable place to lie down. This is a very fruitful source of scours.

Young calves are often tied to the fence, or in one corner of a barn or shed, where they are confined in their filth from week to week, without necessary exercise or pure air. This is another very *certain* cause of scours.

When calves are reared by hand, their food is not always of the same temperature and quality. Sometimes it will be hot, and sometimes it will be cold, and sometimes a lot of bran or coarse meal will be mingled with their milk. Such things almost always produce scours.

There are some other things that will produce scours, but as a general rule the complaint may almost always be traced to one of these causes.

Calves need exercise; close confinement is very injurious to them; they are tender, cold storms and cold earth to lie down on affect them very seriously, when full grown animals, that have a huge mass of food in them, will sometimes experience no ill effects from such things.

Let calves have access to a clean, warm stable, and be permitted to run out when they choose in a clean yard; and let them not be fed too highly with coarse meal with their milk, and we shall not hear much about scours.

When calves are being fattened for veal they need a very clean and warm place, where they can have an abundance of fresh air. Then they will fatten rapidly.

S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

To Prevent Rats Eating Harness.

I saw an inquiry in the GENT. some weeks since, how to prevent rats from eating harness. Put salt plenty where they can have access to it, and they will not disturb the harness. I never knew them to disturb new harness. S. L. W.

OREGON AND HER AGRICULTURE.

OREGON is a State to which public attention has not as yet been turned in the degree which her attractions and importance probably merit. Overshadowed, on the Pacific Coast, by the gold mining regions of California, her development has been retarded, it is true; but she possesses natural advantages which sooner or later will doubtless call a large population to her borders, and build up within them a thriving and prosperous community.

These remarks are suggested by reading an essay on the subject, by W. L. HILL, contained in the Annual Report for 1862 of the Oregon State Agricultural Society, for a copy of which we are indebted to J. W. P. HUNTINGTON, Esq., of Oakland. The extent of territory comprised in our newer States is so vast, that their older settled sisters along the Atlantic seem to shrink almost into insignificance in comparison. Thus Oregon forms nearly a rectangular figure on the map, about four hundred miles long from East to West, and from 260 to 280 from North to South, and is considerably more than *thirteen times as large* as the State of Massachusetts. Although in a high latitude (between the 42d and 46th parallels) its climate is affected by the Pacific Ocean very much as that of Great Britain is by the currents of the Atlantic. Thus the climate of Western Oregon is moist, mild, and peculiarly uniform; and it is rarely necessary to feed stock for more than a fortnight, and frequently not at all during the whole year. Eastern Oregon, more remote from the influence of the Ocean, has a climate much resembling that of the upper Mississippi Valley, but not so cold. The following is given as the mean temperature at Astoria, Western Oregon, as compared with Albany, N. Y., and Dubuque, Iowa:

Mean Temperature.	Astoria.	Albany.	Dubuque.
Spring,	51.16	47.61	47.36
Summer,	61.36	70.17	71.42
Autumn,	53.55	50.01	50.34
Winter,	42.43	25.83	25.88
Whole year,	52.13	48.41	48.75

Thus far Eastern Oregon has not been tested very extensively as a grain raising country, but its immense rolling prairies and level plains are unexcelled for grazing purposes. The valleys of the Deschutes, the John Day, and Powder rivers are already attracting immigration. Within two or three years past gold deposits have been discovered in Eastern Oregon surpassing in richness many of those in California. Mining has been going on for some time on the Salmon and Oro Fino placers, and along the Powder and John Day rivers, and the estimate is made that $8,000,000 had been taken out from these mines up to September 21st, 1862, and that the total product to the close of that year was probably $12,000,000. "These mines will make farming in Eastern Oregon highly profitable. Stock, also, will find a ready market at remunerative prices. Persons cultivating the soil, will find their employment as lucrative as that of any other class; and nothing will be required of them but a good degree of industry, to secure plenty and prosperity."

Reverting now to Western Oregon, we find on the Southern border the Rogue River Valley, well watered by mountain streams, broken in surface, much of it more or less thickly timbered, and a superior stock raising country, with Jacksonville, a mining town of some importance, as its principal place. Then comes the Umpqua Valley, also of rolling and hilly land, but with its tributaries watering a large and fine agricultural country. Next to this is the Willamette Valley, separated by a high mountain range from that of the Umpqua, and destined to become the garden of the State. "This valley is mostly smooth prairie land, large bodies of it undulating, but not hilly, interspersed at intervals never greater than a few miles, often much less, with streams of various sizes, flowing in across the Valley from the mountains on either side. Ranges of low hills covered with oak timber are common throughout the Valley." The comparative importance of the region drained by the Willamette will better be understood when we add that its present population is about 39,000, or nearly two-thirds that of the whole State (now about 60,000.) In this valley are Portland, a seaport, although at a considerable distance from the ocean, and second only to San Francisco in its commercial importance on the Pacific coast, Salem the capital of the State, Albany, Corvallis and Eugene farther up the Willamette river, and Oregon City at its Falls, which give power enough to render this probably the manufacturing center of the State.

"If Oregon has a speciality," says the essay before us, "it is her pre-eminence as a wool growing country. Until very recently, little attention has been paid to the matter of sheep raising; but it is now becoming one of the staple interests of the State. Sheep thrive better here than in any other State. Disease among them is exceedingly rare. They increase here faster than in the East, and the wool is of excellent quality. Only one manufactory of woollen goods is yet in active operation. This is located at Salem. Another is in course of construction in Linn county. The wool clip of the State in 1861 amounted to 444,000 pounds. That of 1862, (estimated by Mr. L. E. Pratt, of the Willamette Woollen Manufacturing Company,) is 344,000 pounds. The difference of amount is owing chiefly to the losses of last winter. The average price of wool in 1861, was 18 cents per pound; in 1862 it is 20 cents. In respect to the quality of Oregon wool, Mr. Pratt says 'there is no inferior wool grown in the State.' When the Eastern papers quote the price of 'Oregon burr wool,' they mislead dealers to the prejudice of this State, as there are no burrs in the country—they probably refer to wool grown in California, and are imposed upon by dealers of that State.

"It would seem invidious to discriminate in favor of any portion of the State of Oregon, in respect to its salubrity. Everything that nature could do to render a country perfectly healthful, has been done for this State. The mountain air, not less than the mountain water, has a vivifying influence; and the gentle breezes of summer, coming fresh from the sea, are a pleasant and effectual preventive against all the violent diseases ordinarily to be feared in dry and sultry regions.

"It may now be asked where and on what terms can land be obtained in Oregon? In the western portion of the State, that is in the Rogue River, Umpqua and Willamette valleys, the best land is occupied. Farms can be had, however, in these valleys, for from five to ten dollars per acre, according to location. There is ample room and settlement is invited. As good agricultural land as there is in the world, can be bought for eight dollars per acre in any of these districts.

"The land in Eastern Oregon is for the most part vacant. Homes may be obtained by simply occupying them under the provisions of the Homestead law, which will take effect the first of January, 1863; or by the provisions of the Pre-emption law. These lands are not yet surveyed, but no difficulty need be apprehended on this account. The immigrant has nothing to do but comply with the conditions under which he takes, and his title will be secure to a home for his family, which even the rapacity of pitiless creditors cannot wrest from them, and which in return for moderate industry, will enable him always to have enough and to spare of the good things of this world."

Best Method to Destroy Apple-Tree Worms.

Take three pints of soft soap in a pail, pour on hot water to dissolve the soap, and then fill the pail two-thirds full of water; take a light pole eight or ten feet long, cut notches in the small end, then wind around a piece of thick, coarse cloth, several times—let it project over the end of the pole five or six inches. Now tie it firmly with a large twine, so that it will not slip off; thus you have the whole materials to commence warfare.

As soon as the worms appear in their webs, take the pail of soap-suds and swab, dip into the suds and apply to the nest of worms, wipe it all off, and thus proceed over the trees. This should be repeated at least every other day, as the eggs do not all hatch at once. A little later, worms will appear on the body of the tree and large limbs, without any web, but in clusters on the sun side of the tree. These may be instantly killed by means of the swab, applying the soap-suds; it will kill them nearly as quick as fire. If the trees are large, have another pole sufficiently long to reach the top of the trees; but the short pole will be long enough to do the most of the work. The best time to kill the worms on the body of the tree, is from ten in the morning to three in the afternoon; they are then sunning themselves in clusters.

Strict attention must be paid until the worms wind up, as the eggs continue to hatch, and sometimes the worms come from the woods, or a neighboring orchard that has not been attended to—they have eaten all the leaves from that, and then they will come like an army; but if attention is given, they may be soon destroyed by the soap-suds. Some persons neglect to kill the worms; they have no fruit, and the trees soon die.

I have found by many years' experience, that this method to kill apple-tree worms, is the cheapest, quickest done, easiest, (no climbing the trees,) and most effectual, for all the soap-suds wets are sure to die in a few moments.

Clinton Co., N. Y., May 7. JOHN T. ADDAMS.

EXPERIENCE IN ORCHARD CULTURE.

Messrs. Editors—I have been reading your article on the culture of orchards, and write to give my testimony in favor of cultivation.

I have an orchard containing 50 apple trees that was set out in the fall of 1857, and has been cropped with potatoes every year except one (when I planted it with beans.) The growth has been about two feet each year except last, which was eighteen inches. Some of the Baldwin trees had from two and a half to three bushels of apples each, windfalls not included.

One of my distant neighbors bought one hundred trees of the same lot as mine, and set them in a sod, and the consequence is the trees have not made two feet growth up to this time, and what is worse, a large number of them have died. Last spring I set out ten Rhode Island Greenings. Seven of them were set in a potato patch and three in sod along the edge of said potato patch. Those set in the sod made from 4 to 6 inches growth, the others two feet six inches. I also set some plum trees at the same time, some in sod and some where they have been cultivated. The former made from 4 to 9 inches growth, the latter from 4 to 5 *feet*. P. Sutton.

Luzerne Co., Pa., May 7, 1863.

BUGS ON VINES.

Every spring numerous inquiries are made how to protect vines from bugs. I am not troubled with any. Whether this is accidental, or the result of my practice, I wish the readers of the Gentleman to determine this spring. When a boy of 10 or 12, I had my little garden under my own care. My grandfather taught me then if I wished healthy vines, to soak my seed from 12 to 24 hours in wood-soot and water.

After having been away from the farm for some years, I am, for the last four years, back again, and remembering the advice given me when a boy, I have soaked my melon and cucumber seed in soot and water, and with me the result has been healthy and productive vines, entirely free from bugs. Buckeye.

DRAINING LEVEL LANDS.

Eds. Country Gent.—The question is asked in your paper of 16th of April, how level land can be drained. The answer is, find a place lower. Now that is not always practicable. I will tell you what I did in 1841. I owned a piece of land on Farm Hill, one mile south of the city of Middletown. On the land there was a basin that received the water of fifteen to twenty acres, and consequently nothing on about three-quarters of an acre grew, but bull-rushes and the coarsest kind of grass. I dug a well in the lowest place until I came to living water. I then filled it nearly full of small stone, and turned the water in to the well by open drains. The land has been sufficiently dry to produce a heavy crop of first rate grass ever since, without plowing or manuring.

I would say to Inquirer, dig a well in the most convenient part, down to living water; then dig a sufficient number of drains leading into the well, to dry the land. The well may be stoned to within four feet of the surface, and a flat stone placed over it, or it may be filled with stone. Either will answer a good purpose.

ASA HUBBARD.

N. B. The drains are to be covered.

KICKING COWS.

Messrs. Editors—You publish in last number of Co. Gent. (p. 289) the way a correspondent of the N. E. Farmer breaks a kicking cow. To me it seems to be quite a difficult operation, requiring a man to be considerably quicker than lightning, and at least *some* stronger than a cow. As few men possess these qualities to that extent, I think his plan is not practicable generally. Most every one has a remedy. Some draw their heads up so high they can hardly stand on their fore feet. Some strain a cord around them so tight they can hardly breath. Some take up their fore foot and put a strap around their knee, a pretty good way to prevent their kicking, but not to break them. Others try various other plans.

I have had considerable experience with kicking cows, having kept a milk dairy of 40 to 50 cows for several years, and being often obliged to purchase such cows as I could without regard to their characters in that respect, have tried a great many ways to prevent and eventually to break them of kicking, but have never found but one effectual plan. That is, after having fed them two or three months all they would eat, to cut their tails off. Cut their tails off, something as the boy did his dog's tail, a little back of the ears. Lockport.

WATER FOR STOCK AND FAMILY USE.

Messrs. Editors—Much valuable information on the above subject has been published in former years in the Co. Gent., and believing that the matter was worthy of further discussion, I intended before now to have contributed my mite to the general stock, but not remembering that I have ever done so, conclude that the intention has shared the fate of many other things that may be done at any time. Not that I expect to advance much that is new to men of experience and observation, but with the hope of giving some of the many young farmers a lift, and lessening in some degree the labors of their most laborious occupation. There are thousands of farms upon which the sources of supply of that necessary article might be very much improved, and in many cases multiplied at a cost that would pay. The subject was brought forcibly to my mind not long since, by seeing a farmer in a half frozen swamp, with shovel and axe endeavoring to open a place in the mire where his cattle might quench their thirst; and as there are too many of that sort of watering places, I propose in this article to give some directions for their improvement.

As people generally prefer facts to theory, I will give a description of the method I adopted, and its results in a similar case. The premises consisted of about three rods in length of the border of a swamp, purchased by some former owner of the land of his neighbor, for the sake of the water that oozed out of the higher ground most of the distance, though not in much quantity in any one place. Consequently the whole surface was a slough, and a hole dug anywhere would soon fill with water or mud, except in time of drouth, when there was little or no water to be had. We used to spend much time in cleaning out the pits, but to little purpose, as the cattle evinced a great penchant for sliding into them from the upper side, and generally kept them full of filth. To cure the evil, I commenced just above the swamp and dug a pit about ten feet long by two and one-half wide, and from each end of it a ditch obliquely up the hill, eighteen to thirty inches deep and about two rods long. The hill rises about eighteen inches to the rod, and the ditches have nearly as much rise. The water was found to come into them on their upper sides through their whole length. I then built in each end of the pit a pier of stone about four feet high, leaving a space three or more between, and plumb on all sides except the outer ones, which were sloped considerably. Then lined the front of the pit with a thin stone fifteen to eighteen inches deep, and the back-side in a similar manner to the top of the piers, and on top of all placed a heavy stone, flat on the under side and flush with the front side of the piers. The ditches were then partly filled with cobble-stones, and finished off with earth; and the walls also were banked up on all sides except the front, and turfed over, so that from the rear it had the appearance of a grassy mound, but in front it appeared like a stone fire-place, with the water-pit at the bottom.

The reason for adopting this particular form of wall was to make it impossible for the cattle to step into or otherwise befoul the water, and the embankment was to prevent the surface water from above washing dirt into the spring. Well, the result, I confess, greatly exceeded my expectations. There seems to be at least three times as much water as before, and although there have been several dry seasons since, yet there is always an abundant supply, and I have never yet known it to freeze over. No cleaning out is needed, unless the leaves should blow in, and the ground is dry and firm on all sides, except where a sparkling stream of pure water is discharged from one corner of the spring.

The farmer above mentioned admits that corn does not thrive well near the border of his swamp, and says that it is because the land is too cold, but don't believe the reason why it is so is because it is full of cold spring water to within from one to three feet of the surface, or that with a properly located drain he can have a most beautiful watering place a rod or more above the swamp, and if he chooses, carry off the surplus water in a covered drain, so that his cattle, instead of wading through muck, or breaking their necks on ice, need not so much as wet their hoofs in going to water. But it is true, nevertheless; and the labor he expends in a single season in opening muck holes to get water for his stock, would be more than sufficient for all I propose, to say nothing of the saving of manure and the safety and comfort of his cattle. But this article is already too long. With your approbation, Sirs Editors, I propose to continue the subject in one or two more articles. H. V. Welton.

Waterbury, Ct.

CURING CLOVER HAY.

Messrs. Editors—In the summer of 1861, having a field of red clover to cut, I concluded to try an experiment in making it into hay, or rather to vary the process which I generally take in making and housing clover hay.

My practice for some years past has been to cut my clover when about one-half of the heads were getting out of the blow, or beginning to turn brown. If it is cut when there is no wet in it, I let it lie in the swath until it is wilted, and then put it into cocks, using a fork to do it with, and taking small forkfuls in making them; have the cocks as small on the ground as will stand well, and not make them very large. The next day, if the weather is favorable, lay the cocks over in the following manner: With a fork take off the top of the cock and lay it on the ground, then take off another forkful and place it on the first one, and so on until the whole has been laid up and the cocks have been turned bottom upwards. In this way the greener parts are placed on the top and outside, and the whole left loose so that the heat and air will circulate through it, and carry off the moisture. The third day open the cocks and let the hay be exposed to the sun for a few hours, and then put it in the barn.

Although this method of curing clover hay is a great improvement on the old method, (which was to spread out and dry it like fine grass,) yet in this way there is some loss by the leaves and heads becoming so dry as to shell off.

The way which I designed to make this field of clover into hay, was to cure it entirely in the cock, not to open it at all, but to lay the cocks over from day to day, until the hay was suitable to be put in the barn. The clover was cut in the morning, in the afternoon it was put into the cock; the next day in the afternoon the cocks were laid over. The next morning, (the third day) the prospect was that we should have showers before noon, and rather than have this clover wet I decided to put it into the barn, and as soon as the dew was dried off commenced carting it in. Although this clover was well wilted, and some of it partially dried, yet at least one-third of it appeared to be as green as when it was first put into the cock, and I expected that it would be damaged some by putting it in so green, but probably not any more than by leaving it out and having it get wet.

The clover was all put on a scaffold near the barn door, so that when the door was open it would receive the benefit of the air or wind that might come in. After a while the scaffold was filled with other hay. Not having occasion to use all my hay the next winter, this scaffold remained until the past winter, in which I have fed it out. As before stated, I expected when I came to feed out this hay, to find it mow-burnt, musty and perhaps mouldy, but instead of this I found all of it bright and sweet, and as well cured in every respect as any hay could be; all of the heads and leaves were on the stalks, and the whole was eaten by my stock with as much relish as any hay that I have, and it was eaten up clean, stalks and all.

The summer of 1862 I cured all my clover hay in the cock, but it stood out longer in the cock before it was put into the barn, than that cut in 1861. All that I have yet fed is as bright and as sweet as I want hay, and judging by the way that my stock eat it, and thrive on it, it is worth as much as any hay that I have.

From my own experience in curing clover in the way mentioned, I am satisfied that there is a saving of fifty per cent. over the way practised by many, that is to spread out the clover and dry it until the stalk is dry. By this way a large portion of the heads and leaves fall off and are lost, these being the most valuable part of the hay when cured in this way. Especially is this the case when the clover is allowed to stand until it is over ripe before it is cut. C. T. Alvord. *Wilmington Vt.*, 1863.

THE CULTIVATOR.

ALBANY, N. Y., JUNE, 1863.

☞ At the last session of the Legislature of this State the sum of $1,000 was appropriated to pay the freight on articles manufactured in the State of New-York designed for Exhibition at the Show at Hamburgh in July. We are requested to call the attention of Manufacturers to the fact that such is the case. As the Law provides for the disbursement of the money under the direction of the State Agricultural Society, the President and Secretary were appointed a committee for the purpose, and after conferring with the other members of the Board at its last meeting, they decided to make arrangements with Messrs. AUSTIN, BALDWIN & Co., New-York, to pay the freight on such articles as may be entered, *from the place of shipment*, in whatever part of the State it may be situated, to Hamburgh and back, in the order of entries, to the extent of the appropriation named ($1,000.) These arrangements having been completed, Messrs. A., B. & Co., will at once issue a circular giving all requisite information, which may be obtained by addressing them as above.

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☞ A number of farther movements in Improved Stock have lately come to our knowledge. Mr. THOS. S. LANG of Vassalboro, Me., is entering into operations in earnest as a Short-Horn breeder, having just procured, in addition to previous purchases from other sources, the following noted cows which were all imported by SAML. THORNE, and for several years have done good service as breeders at Thorndale: "Lalla Rookh," "Peri," "Victoria 26th" and "Aurora," with a bull calf from the last, sired by Royal Oxford, and the bull "Matadore" by 3d Duke of Thorndale—in all six head.

Capt. HILTON of New-Scotland, Albany Co., has purchased from Col. CHARLES S. WAINWRIGHT, The Meadows, Rhinebeck, the Devon bull "Sachem," calved Oct 8, 1858, by Horicon out of Helena 2d. This is from some of the best Devon stock that has been imported, and will add to the reputation and value of Capt. Hilton's herd. Capt. H. has also lately sold the bulls "Empire 4th" to Mr. Charles Wentz of Chemung Co., and "Empire 5th" to Mr. Walter Cole of Batavia, Genesee Co.

Attention may here be appropriately called to the Advertisement of the Ellerslie Herd of Short-Horns, of Hon. WM. KELLY, which appears in another column this week. There are few herds in the country which present so many inducements to intending purchasers. Catalogues may be seen at this office. Another new advertisement of a portion of the Short-Horns and other improved stock at Waldberg, from Hon. A. B. CONGER, also appears this week.

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☞ In visiting "Highfield Farm," near West Chester, Pa., the residence of D. B. HINMAN, Esq., in 1861, we noted a case of unusual precocity in his herd of Alderneys, which was widely copied, and is still in circulation among the papers. It was that of an Alderney heifer which had had *twin heifer calves* when she was herself only *thirteen months and twenty days old.* Mr. HINMAN now informs us, under date of the 7th inst., that this cow has given birth since our visit, to a second pair of twins and one single calf—making a *total of five calves before she was herself three years old.* As her oldest calves have also bred, she is moreover the grand dam of two calves—or, in other words, has already had in reality *seven descendants.*

Mr. HINMAN thinks his Alderney is rather ahead of the Short-Horn noted on page 284. Both are remarkable cases, and the former, so far as we are aware, quite without a parallel.

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☞ The Course of Agriculture in California is illustrated very clearly in an interesting table of its Exports during nine years past, lately compiled for a San Francisco newspaper. From this table we are enabled to derive the following facts as to a few of the leading articles of Farm Production:

GRAIN AND FLOUR EXPORTED FROM CALIFORNIA FOR NINE YEARS.

	Barley—Sacks.	Wheat—Sacks.	Flour—Bbls.
1854, ...	15 000	4.967	58.115
1855, ...	73,160	66.413	115 716
1856, ...	4 884	22.840	77.260
1857, ...	182 602	3,781	9.005
1858, ...	182 570	———	16,330
1859, ...	154,069	131,540	25,274
1860, ...	133.495	1 126 096	114 936
1861, ...	373 852	1,350 783	170 563
1862, ...	98,239	720,378	105,857

This shows a wonderful variation, the ups and downs being very sudden as well as large. In the products of stock farming, it will be seen however that the progress effected has been much more regular and certain:

HIDES, TALLOW AND WOOL EXPORTED FROM CALIFORNIA FOR NINE YEARS.

	Hides—Number.	Tallow—Pkgs.	Wool—lbs.
1854, ...	43.000	———	175,000
1855, ...	112,770	539	360.000
1856, ...	147,839	1,700	600,000
1857, ...	170,447	1,068	1,100,000
1858, ...	168 993	918	1,423,551
1859, ...	151.364	1,577	2.378,250
1860, ...	200,250	2,125	3,055,325
1861, ...	181,166	2,192	3,721,998
1862, ...	321,583	2,351	5,990,300

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☞ The result of our inquiries in 1859 in various parts of Great Britain satisfied us that at that time the Mangold Wurtzel was in growing favor as a root crop, as compared with the Turnip; and we were almost everywhere told that the former was constantly gaining and the latter losing in proportionate extent of culture. But the result of the two past seasons must have exerted considerable influence to turn the tide back again to the old stand-by of the English farmer—the Swedes and their congeners. Both in 1861 and 1862, says the Mark Lane Express, "the turnip crop has been a splendid one, whilst the mangold wurtzel was as inferior. The latter, in fact, appears either to have degenerated or to require some change in its mode of cultivation or in regard to manure, in order to bring it back to its former state of efficiency." In another article the better success of the turnip is ascribed "to the increasing use of *superphosphate of lime*, which causes so rapid a growth in the first stage of the existence of the plants, that they speedily assume the rough leaf, and thus avoid the destructive attacks of the fly." And the great importance of giving a good start to the plants by the use of such fertilizers, should be borne in mind by those who are intending to "try a few roots" here, the present season. We are informed by SAMUEL THORNE, who has had much experience in growing turnips on a scale of considerable extent, that he is better pleased with *simple ground bone* as an application, than with superphosphate of lime, the result of a careful trial with amounts of both, of equal pecuniary value, having shown as large a product from the bone as from the superphosphate, while its effect upon succeeding crops is undoubtedly the more lasting of the two. But ground bone cannot always be obtained, and where this is the case a superphosphate should certainly be used. Several leading manufacturers have had their cards in this paper during the past month or two.

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☞ There never was a season when Farm Machinery was in more general demand over the country, and perhaps never one in which Manufacturers seemed less inclined to advertise their latest and best inventions to the public. Are they already receiving orders to the full extent of their capacity to supply them, or is there a lack of capital or enterprize somewhere? Sales are made this year for cash more readily than ever before. It might be a good lesson for our Implement and Machine makers to take one or two foreign agricultural journals—the London Mark Lane Express, for instance—and note the example set them by their brethren in trade abroad, whose full and largely illustrated advertisements weekly crowd the columns of all the farmers' papers.

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☞ A correspondent in St. Lawrence county, who is a hard working and practical farmer, and, as he says, "a great friend of the Country Gentleman," gives us a spirited picture of the contrast between the economical wintering of animals and the systematic production and management of the food they consume, on the one hand, and the wasteful and costly way in which these operations are too often conducted, on the other, by those who have no disposition to profit by the teachings of "book farming." His neighbors think, he says, that he "farms it not to make money," but now, after the hardest season that he has experienced in thirty years, with all crops poor, he is coming out in the spring with "six tons of good hay, two hundred bushels of roots, one hundred of potatoes, and enough to live on until another harvest." "Our farmers in St. Lawrence," he says, "are having hard times; fodder is very scarce, with cattle dying on account of the scarcity, and our farmers will have to take the Country Gentleman to learn to be economical with their fodder, and keep no more stock than they can winter. One of my neighbors made me a call while I was plowing: 'Walrath,' said he, 'I don't know what I shall do for my cattle—my fodder will not last a week.' I told him I thought I had two tons of hay more than I should want. This neighbor is one that thinks he is not able to pay for the Country Gentleman, and that it will only do for 'gentleman farmers.' I have asked a hundred such farmers to take your journal, and received the same reply. These farmers fodder their stock on the ground in the mud, and let them run over their farms and in the highway—pronounce a curse on the cattle law—say that it will not pay to cut corn stalks or straw for stock—'let them do their own cutting'—and these very men are now paying $25 per ton for hay, $1 per bushel for corn and 75 cents for oats—and finding fault that the long winters take all they can earn in summer to carry them through the year. How long will it be before this class of farmers are willing to learn a lesson? There was no excuse for our keeping more cattle than we could winter. Stock buyers were never so plenty as during the past season, although they offered but poor prices it is true. I was offered last October, $12 for two yearling steers, which I kept and sold last week to the butcher for $90."

Our correspondent also mentions that although he is in his 57th year, and for ten years back has not done much plowing, he determined that day to act on "some good advice given to farmers in a late number of the Country Gentleman, to make an extra effort to raise an additional amount of produce this season;" and, notwithstanding a badly cut finger, in cutting the roots for his team that morning, had plowed "full two acres of green sward, rather strong soil," up to five in the afternoon—having in mind the important fact that "*good example* exerts a most powerful influence." Considering that he wrote his letter to us the same evening, we think our friend may certainly have retired to rest that night with the consciousness of having done at least one good day's work this spring; and we have no doubt, with the same spirit guiding subsequent efforts, that his farm will again produce enough to prevent any danger of the starvation of *his* stock when another winter comes around.

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Agricultural Colleges.—Under the act donating lands to the several States and Territories for the establishment of Agricultural Colleges, the following States have accepted the conditions in the order named:

1. Iowa—To select land within her own limits.
2. Rhode Island—To locate with scrip.
3. Minnesota—To select within her own limits.
4. Kansas—To select within her own limits.
5. Illinois—Part selection, part scrip.
6. New-York—Scrip.
7. Kentucky—Scrip.
8. Vermont—Scrip.
9. Wisconsin—To select within her own limits.
10. Pennsylvania—Scrip.

Thirty-five thousand pieces of scrip, of one quarter section (160 acres) each, will be issued to these States at once. This statement is given in the newspapers—we do not know whether the list of States which have already accepted the donation of Public Lands from Congress, is complete or not.

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Strawberries by Mail to Tennessee.—We make the following extract from a letter from Dr. Wombaugh, dated Nashville, Tenn., May 13, 1863:—"The Country Gentleman, the Cultivator, and Rural Affairs, are responsible for my speculating in a small way in strawberries. Seeing the advertisements of Mr. Parry and Chauncey Miller, I thought I would send for 50 Triomphe de Gand and 50 Austin plants; in due time they came to hand through the post-office in good condition of course, fo those gentlemen understand putting them up. I treated the roots of each plant to a liberal coating of thin slush mud, made from rich garden mold; and, spreading th roots as nearly in their natural position as possible, planted them about the same depth as their original growth and watered them with a sprinkling-pot every evening fo a week, so that the moisture of the earth would attrac the heavy dews; the result is that I have only lost tw plants; the others are all growing finely, and give fai promise for the future, though received late and plante in May, which is pretty hot in Nashville. My neighbor think me *lucky*, but I think any one who will tre strawberry plants in that way will be *lucky*. Old fogie may say, that may do for a few sets for a garden, but fo the field there is too much labor; I answer with Frankli 'whatever is worth doing, is worth doing well,'—it wi doubtless pay better than empty spaces."

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☞ Mr. W. N. Perry of Rushville, Yates Co., h lately purchased from the herd of Mr. C. K. Ward, Lero a Short-Horn bull calf, by Mortimer, 4181 A. H. B., bre by R. A. Alexander of Kentucky, and out of the co Bright Eyes 5th. Mr. Ward's advertisement of oth bulls for sale, appears elsewhere.

☞ Mr. J. H. **Bixby** of Royalton, Niagara Co., N. Y., formerly an associate editor of the Rural New-Yorker, and who has for a number of years past been a regular contributor to our columns, died at his farm near that place, on the 14th April, after a brief and severe illness of only four days. "For two or three months previous," says the letter announcing to us this melancholy event, "his health had not been as good as it was during the first part of the winter, and we hoped, as spring advanced, he would get better—but how vain are all earthly hopes—'Death loves a shining mark,' and he has taken one who will be sadly missed, not only in his own home, but by all who knew him. He was a man of firm, religious character, upright and honest in all his dealings, a faithful friend, a noble, kind, and loving husband and father." Mr. **Bixby** was still in the prime of life, and his loss is thus a severe blow to his surviving family, to whom we tender our sincere condolence in their deep affliction. We shall miss the familiar hand of our departed friend from among the number of our correspondents, and our readers will miss the plain and instructive articles he has from time to time prepared on the various subjects of farm crops and practice.

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☞ After a long life of usefulness, Dr. **William Darlington** of West Chester, Pa., died at his residence in that place on the 22d ult., in the 82d year of his age. He was chiefly known abroad as a botanist, but enjoyed at home a high reputation in his profession, and as a public spirited and much respected citizen. His "Flora Cestrica" first appeared in 1826, and had passed through several editions—from the first establishing for its author a eading position among the few Americans who have devoted themselves to this important branch of science. Until the close of his life he continued more or less acive with his pen, and passed his old age in a calm and tudious retirement, devoted to his favorite investigations n literature, science, and local history, and frequently ontributing articles, especially of the last named description, to the West Chester papers. He was a gentleman f the old school, and betrayed his fondness for classical eading in the scholarly style in which he wrote, as well s in conversation and in the dignity and urbanity of his ntercourse with others. The most important of his works n an agricultural point of view, was the Agricultural Botny, or "Farmers' Flora," as he styles it in his preface, which first appeared, we believe, in 1847, and an enlarged dition of which, with additions by Prof. **Thurber**, has een published within a few years past, under the title of American Weeds and Useful Plants."

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☞ We have heretofore suggested, as an experiment orthy of trial, especially by local Agricultural Societies, he holding of Spring Shows of Breeding Stock—the spring eing the time when there should be the most interest aken in the subject, and when, with proper effort, the most may be done to secure the introduction of improved ood. We now note a statement that an exhibition, hich seems to have been of the kind referred to, was eld by the Delaware State Agricultural Society, at the ty of Wilmington, April 22d, but we have no particurs at hand. A correspondent also sends us the followg account, from Lee, Berkshire co., Massachusetts:

We have to-day held in this town an exhibition of eeding animals. It was originated with the view of esenting to the farmers, at the time when they need to cide on the line in which to improve their stock, speciens of the different breeds. There were present several fine horses, with and without pedigrees, and three bulls representing the Short Horn, Ayrshire, and Devon breeds. We think that for a little town we are doing a good deal in the way of improvement of stock. The Short Horn was not thoroughbred, but is a descendant of one of Mr. Thorne's fine bulls. He was coming four years old in June, and weighed 1902 lbs. The Devon was Huron, who took the first premium as a two year old at your State Fair in Albany in 1859. He weighed 1740 lbs., and was universally admired for his well knit and symmetrical form. The Ayrshire was Young Cardigan, bred in Ayrshire, and imported by our State Board of Agriculture. He was a good specimen of the breed, and was very much liked. He weighed 1420 lbs.

I believe there are no thoroughbred Durham cows or bulls in our town, but both Ayrshires and Devons are now bred pure here.

The attendance was good, and the affair proved a success, and it is to be hoped it will be repeated every year. We should like to hear from other towns which have tried the like experiment. R. N. *April* 27, 1863.

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☞ "A Manual of Flax Culture and Manufacture, embracing full directions for Preparing the Ground, Sowing, Harvesting, &c.," as already advertised in our columns, has been published by D. D. T. **Moore**, Esq., of the Rural New-Yorker, Rochester, N. Y. It contains:

1. A Practical Essay on Flax Culture. By **William Newcomb**, of Rensselaer County, comprising in a little more than three pages the culture and preparation of Flax for market.
2. Flax Culture and Manufacture in the United States and Great Britain. By N. **Goodsell** of Oswego County, in a series of articles prepared for the Rural New-Yorker—10 pages.
3. Report on Flax and Machinery for making flax cotton, by the Flax Committee of the New-York State Agricultural Society—10 pages.
4. Hemp and Flax in the West: amount grown, modes of culture, preparation for market. By **Charles D. Bragdon** of Illinois—9 pages.
5. The structure of Textile Fabrics. By **John Phin**, Author of "Open Air Grape Culture"—4 pages.
6. Articles on Soil, Seed and Culture, by S. **Edson**, Flax Growing in Seneca County, by S. **Williams**, Flax as a Domestic Institution, by H. T. **Brooks**, and Botanical descriptions of Flax and Hemp, by Prof. C. **Dewey**.

The whole constitutes a neat pamphlet of 48 pages, illustrated with a number of appropriate engravings. Price, 25 cents.

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☞ The Farmers' Club of Hadley, Massachusetts, held their Annual Market Fair at that place, April 22d. Cattle and horses were exhibited in considerable numbers, and passed upon by committees appointed for the purpose. Mowing machines, seed grain of various kinds, potatoes, etc., were also shown. The attendance is said to have been larger than usual, and quite a number of sales were effected, although the effecting of sales does not seem to have been by any means the only object of the meeting. In the evening a festival was held at the Town Hall, at which the Farmers' Clubs of Northampton and Easthampton, were present as invited guests, with their wives and daughters. Such occasions are both profitable and pleasant, and while our space will not permit us to go into the details, which are mainly of local interest, the example is one worthy of being placed on record for the imitation of similar clubs in other places.

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Cheese Factories.—The greatest interest is manifested throughout this county in the making of cheese, which pays the farmer a great profit at the present high price; and the building of factories for the manufacturing of cheese is rapidly in progress throughout the county. This will prove very beneficial to small dairies that are not large enough to manufacture cheese of saleable size for the market. By taking the milk to the factory, the man with five cows will get in proportion to the man that has fifty. In my next will give you the number of the factories in this county, and the number of cows belonging to each. J. E. **Morgan**. *Oneida Co., N. Y.*

Inquiries and Answers.

[Particular attention is invited to this column, in which Inquiries on all subjects within the scope of this Journal will find a place. While we shall continue to reply to such of them as circumstances will permit, we ask our readers to furnish any facts or experience which they may possess, in answer to the queries here proposed, whether we respond to them ourselves or not.]

SCOURS IN COLTS.—Please state through the Co. Gent. a cure and prevention of the scours in young colts, for I have known several valuable colts to die with it. A Subscriber. *Indiana.* [Young colts frequently suffer as mentioned, in consequence of the bad milk of the dam—the latter resulting from a change in and deficient food. Mares that have been well kept and fed in stables, and then turned out to grass to take care of themselves, often suffer from a want of shelter and nourishment, and impart the effects of this treatment to the young colt. The best way to restore the latter is to take good care of the former. Provide shelter, give ground grain—cooked if there is much disease, and let the colt partake of a portion of the food. Turn out to grass only an hour or two a day at first, and gradually increase. If there is much diarrhoea it may be well to mix with the cooked meal a small quantity of ginger and powdered slippery elm bark.]

CARROTS.—In the Co. Gent. of Dec. 25, "W. J. P." inquires if "any of its readers has had experience in leaving carrots in the ground until spring, the same as parsnips?" Last fall it being late when we dug our carrots, we left a few rows, and plowed a furrow each side of the row, throwing the dirt on the carrots. This spring on going to examine them, found them completely rotted. I should say that before we dug them for winter use, the ground had been frozen a couple of inches deep, but they kept good. Have come to the conclusion that carrots ought all to be dug in the fall.

Readington, N. J. J. F.

SQUASH BUG.—Can you or any of your readers tell me, through the columns of The Cultivator, a good remedy for the destruction of the pumpkin bug? Last year they attacked my Hubbard squash vines in multitudes, and totally destroyed them. Description—it is a large black bug, sharp edged, and in fact the *smell* is sufficient for an outline. J. T. B. *Cumberland, Md.* [We have not found anything better than to frequently examine the plants and kill all the bugs to be found. If this is faithfully followed two or three times a day for some days, the insects will become rare.]

SORGHUM.—Answer to inquiry in Co. Gent., March 26. One quart of good ripe seed is sufficient to plant an acre in hills three and one half feet apart each way, three or four seed to a hill or in drills that distance apart, a foot from plant to plant. The earlier it can be planted the more profitable it will be. The above named quantity is plenty for an acre if the cane is to be manufactured into syrup. For fodder I think more seed would be needed. J. F.

Readington, N. J.

CHURNS.—I would like to inquire which is the best churn you know of with regard to ease of making butter, also ease of cleaning, some being very objectionable in this respect. P. O. *Racine, Wis.* [For a simple churn, we prefer Kendall's (rotary motion given by a crank,) which turns very easily, and is readily cleaned. A more perfect one is the thermometer churn, which is nearly the same thing, with the addition of a provision for controlling the temperature.]

AMALGAM FARM BELLS—Do Bells of this composition give satisfaction? Are they equal to that of the ordinary brass bells? John Johnston, after a year's experience, might be able to say whether they are just the thing for our farmers. B. A. *Rock Spring, Pa.* [We have heard both John Johnston and several other friends who have tried them speak so highly of the Cowing Steel Amalgam Bell, that we do not hesitate to commend as being "just the thing" exactly, both in price and quality. The prices range as follows: 15 inch diameter, $6; 16 inch, $7; 18 inch, $8; 20 inch, $9; 23 inch, $15,—and we will cheerfully undertake to fill any orders that may be sent us accompanied with the cash.]

COOL CELLARS.—Nearly all cellars are too warm and damp for wintering bees or keeping fruits with the best success. How can I obviate this difficulty and yet have my cellar entirely free from frost? W. Bradford. *St. Lawrence Co., N. Y.* [Double cellar walls (with an interposed space of air) lessen dampness, as well as heat. The same result is secured by paving and cementing the bottom with water-lime, and a good floor thus obtained.]

OSIER WILLOW.—I wish to learn all I can in regard to the raising of the Osier Willow. Please give me some information in regard to planting, &c., and also the price of cuttings? E. W *Port Huron, Mich.* [The Osier is very easily raised from cuttings, made about a foot long, and set within an inch or two of their tips, into mellow rich ground, trodden compactly about the cuttings, especially at the lower part. The soil must be well cultivated for a year or two. We cannot give the price, but the cuttings may be had very cheaply of those who raise them, and of most nuryserymen.]

FROST AND ITS EFFECTS.—Will you please explain to me how frost and moisture act upon posts, stones, &c., in the ground, causing them to *heave* to the surface. Also is there any secure manner for setting posts in wet ground. W. B. *Louisville, N. Y.* [The expansion of water in freezing elevates the surface of wet ground and draws up the post. The most secure way of setting posts is to place an underdrain near or under the line of the fence. A two inch pin inserted into a hole bored through the lower end of the post, so as to project a few inches each way, and then filling the hole with broken stone or gravel well rammed in; and making a compact ridge of earth against the line of posts, with a surface drain on each side, are both useful—but a drain is the most perfect.]

BARLEY AND OATS.—I notice an inquiry in the Country Gentleman of April 23, "How to separate Barley from Oats for Seed." The method I have found more effectual than any Fanning Mill, is to make a tub of strong brine, then pour the grain slowly through a sieve into the brine, when the oats will float on top. Skim them off with a skimmer. Dry the barley in plaster before sowing, which I think gives it a better start, than sowing on plaster after the crop is sown. Geo. W. Stearns. *Ontario Co., N. Y.*

TREATMENT OF COWS.—Wanted, from you or some of your veterinarian correspondents, information on the management of cows? What quality and quantity of feed is preferable before calving; and what immediately after? Should a cow drink her first mess of milk? What should be given to facilitate the after-birth? How soon should it be taken away? What after-treatment? What to prevent or cure milk fever? What symptom would justify drawing milk before calving. R. L. G. *Otsego co.*

FENCING.—I have thought much about your article on the cost of making and keeping fences. On a farm destitute of good fencing, would it do to fence off a *standing* pasture, and have no *division* fence? or is it necessary for the cleanliness of the land, to have it *all* pastured as its turn comes? I am only a young farmer, and do not know this last by experience. In the former case one could have as many fields or lots as he desired without the expense of cross fences.

Maryland.

STONE MILK PANS.—Inquiry is made concerning these milk pans. We use no other. In the summer they are set in the running water, within an inch or two of the top of the pans. All milk vessels require care to keep them sweet and clean; so do the stone pans. After skimming the milk, wash out the pans, scald them well, then set in the sun until needed, when all they require is to rinse them out with cold water.

BUCK-EYE.

THE CATTLE LAW.—Our legislature is now in session, and we stand in need of a more stringent law restraining animals from running at large upon the public highways. Will you be good enough to tell us through your next issue Co. Gent., whether your State law was in any way altered or modified at the last session of your legislature, and if so, what was the change? If it had no alteration, how is it liked? Is it the thing needed to secure the end? R. S. *Norfolk, Ct.* [There was no change made, we believe, in the Cattle Law of this State, at the last session of the legislature. While the law has not everywhere been enforced—so far as we are aware, its results have been good, and we have heard of no complaints under it of a sufficiently serious kind to attract attention, or to change our opinion of its being well adapted "to secure the end."]

NIGHT SOIL.—Is there any way in which I can secure a pit full of night soil for manure? I have one, and if you can tell me how it can be made fit to handle, you will oblige? A Young Subscriber. [Charcoal dust, well dried muck, or some similar absorbent, may be worked in with it, in sufficient quantity to render the mixture nearly or quite inodorous. Burnt clay would be an excellent thing for the purpose, or coal ashes if at hand. The use of plaster will probably assist in deodorizing the compound. Before application it may be desirable to farther reduce its strength by composting with loam. It is the better way to add absorbents with plaster from time to time at the vault, in order to facilitate the handling of the contents when removed.]

AG. SOCIETY.—We wish to organize a Township Agricultural Society, and we don't know how to go about it. If you have a good form you will please have the kindness to mail me a copy? A. L. W. *Ohio.* [A brief constitution, declaring in separate articles the name and objects of the Society, what its officers shall be, and their duties, is all that is necessary to begin with. Let this be adopted in a meeting of those who favor the undertaking, the officers elected, and then the organization is ready at once for business. Should the State Law require any farther formalities to secure the legal existence of the society as a corporation, you may obtain the requisite information by addressing J. H. Klippart, Secretary of your State Board, Columbus, O.]

A LEAKY TEAT.—What is the remedy for a heifer of very great promise, that has a small hole in one side of her teat? J. E. M. *Portsmouth, R. I.* [It has been recommended to slightly enlarge the hole with a sharp knife, that in healing it may close entirely. It may be necessary to take a stitch in the wound thus created. The same result may be attained if instead of cutting with a knife, a small wire heated, or a sharpened stick of lunar caustic, is introduced into the hole—the burns from either of these causes having a tendency to bring together the sides of the orifice. It would probably be expedient to defer the operation until the heifer is dry, as the teat should not be handled until the wound is closed.]

WEEDER.—Do you know of a carrot weeding machine, one that will do its work well, and not costly? I found one advertised in your paper by R. H. Allen & Co., price $6, but on sending for one of them was answered that they were all sold, and no more likely to be made. I wish to find a machine that will save some of the expense of cultivating the carrot, and do not know to whom I could better apply than to yourselves. M. L. W. *Great Barrington, Mass.* [We think that Halsted's Cultivator, made by Haines & Pell, New-York, might suit our correspondent's wishes. See advertisement of the firm.]

POULTRY.—Can you inform me, through your paper, where I can procure the Silver Laced Bantam (Seabright;) and the pure White Dorking fowls? I should prefer getting them nearer than the East if possible. T. C. M. *Louisville, Ky.* [We cannot furnish the desired information. Inquiries for various kinds of Poultry have been lately very numerous, to many of which we have responded privately, to the above effect; if there are breeders who keep them for sale, they would save us much trouble and probably promote their own interests by advertising the fact to the public occasionally.]

SCOURS IN CALVES.—I would recommend S. (page 304 Co. Gent.,) to place a piece of chalk weighing from three to five pounds, where the calves can have convenient access to it. It is not only a cure, but a preventive of the scours in calves. I have not had a case of scours for more than three years, or since I used the chalk. Soon as the stomach becomes acid, they will lick the chalk and scrape it with their teeth. D. B. H. *Chester Co., Pa.*

CAKED BAG IN COWS.—I have been troubled of late with large, hard lumps in the udders of several cows, which stop the milk from coming down. Can any of your readers suggest a remedy? J. Miller. *Rensselaer Co., N. Y.*

PRECOCIOUS MILKER.—I have a fine Holstein heifer apparently with calf, 3 years old this spring. Some ten days ago her bag suddenly enlarged, and became very sore, with garget in one teat, which I had carefully bathed and rubbed. It is all well again, but she continues to give a quart of milk twice a day. Did you ever know such a case, and is it right to milk her? She could not have slunk her calf, having been housed all the time. She is a fine looking animal with finest kind of mirrors. T. [We have known similar cases without injury arising therefrom.]

DRYING OFF COWS.—I wish to inquire of some of you subscribers, through The Cultivator, the quickest and best way to dry up a farrow cow? An Old Subscriber.

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☞ The sale of the first half of the Babraham Short-Horn Herd of the late Jonas Webb, took place April 15th, as advertised, and we give below the only account as yet received through our foreign files:

"Babraham achieved another triumph on Wednesday, when about half the late Mr. Jonas Webb's herd of Short-Horns were submitted to competition by Mr. Strafford and Mr. J. C. Jonas, and realized upwards of 4,000*l.* Several of the cows made 80, 90, and 100 guineas, and a few lots even more. The keenest competition of all was for Drawing-room Rose, a roan heifer, which fetched the heavy price of 225 guineas, the fortunate owner at that sum being Mr. Clarke Irving from Australia. The bulls scarcely did so well perhaps, as might have been expected, coming rather late in the day. Among those that realized high prices we may notice Beauty, now 10 years old, 100 guineas, and Red Rose 160 guineas. The part of the herd sold comprised sixty-two cows and heifers, and twenty bulls. The eighty-two animals brought 55*l.* 15*s.* each, or a sum total of 4,571*l.* 14*s.*, an amount which must be considered highly satisfactory. Many of the animals were bought for Germany, France, some for our own home counties; several will also find their way to South Australia and other distant colonies. The sale of the remainder of the herd is fixed for June 24, when no doubt an equally good account will be rendered."

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☞ We are indebted to Charles Van Benthuysen, Esq., for the Legislative Manual for 1863. Together with the usual matter comprised in these convenient volumes, it gives the officers of the State Agricultural Society, and of no less than *fifty-three* County Agricultural Societies, and *ninety* Town and Union Societies and Farmer's Clubs. *One hundred and forty-four* organizations of this kind speaks pretty well for the activity and intelligence of the Farmers of the State of New-York.

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Oats on Green Sward.—"In Scotland oats are generally the first crop on the inverted sward. The furrows are seldom over five inches, and often not over four inches deep." So states the Boston Cultivator. We are of the opinion that shallow plowing is necessary to the success of this crop on sward, especially in dry seasons. The sod then rots sooner, and settles more closely on the soil below. B.

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Bones.—I have had some experience in treating ground bones with sulphuric acid. It is very troublesome, and I would not advise a farmer to undertake it, especially as it is a rather dangerous thing for one unaccustomed to it, to handle the acid. I think I should prefer to get them already "treated," though I cannot speak of their action on a crop yet. F. A. R. *Annapolis, Md.*

LETTER FROM JOHN JOHNSTON.

Messrs. Editors—I notice there is much poor wheat around here. True, there are some fields that are good, but I fear there are more bad. I wrote you last autumn that I thought mine was ruined by the so-called Hessian fly; it is a total failure, and all owing to too early sowing. I sowed the 5th and 6th of September, and many sowed earlier. I knew better than to sow so early, as I had had failures before from early sowing. For a few years after I came here, I began sowing when my neighbors did, but as I then did the plowing and sowing myself I was often late in finishing, and I saw the wheat I sowed from the 18th till 25th of September was almost always the best crop. In 1831 I had quite a loss by this same fly, and then determined to get all my land ready and not commence sowing until the 20th September, or thereabout. I continued that course for about 20 years, and had almost no failures, with the exception of 1844. In September of 1843, as I intended going to the State Agricultural Show at Rochester, I sowed early in order to sow my my wheat before I went, and in consequence lost at least half my crop of 80 acres. Some time after the midge commenced to destroy the wheat crops along here, people got almost crazy to have their wheat early sown—some, indeed many, sowing in August, but I never began earlier than the 11th or 12th of September, and had no failures.

I have proof positive that if I had sown about the 20th of last September, I would have had fine looking wheat now. By some imperfection in the drill it missed dropping from one spout the whole length of the field for several times; these rows I had drilled over about the 20th or a little later. Now these *rows are as healthy looking wheat as any man can wish to see, while the other is worthless.* If farmers will take heed to what I have written, it will do many more good than the loss of 13 acres of wheat will harm me, although I fully expected 500 bushels when I sowed it. It is folly sowing so early. I never knew one day difference in coming in ear, or of ripening, *from that sowed on the 12th or 25th of Sept., if the condition of the land was equal*, and I have no doubt if farmers generally will make notes of their sowing and the ripening of their different fields, they will find what I say is correct.

We now have very fine weather. My barley looks very well, grass very good, clover ditto. I have not been from home to see the wheat, but my friends tell me much is bad. Mr. Foster, who has as good land for wheat as any in this county, says his is an entire failure. I presume he sowed early, as he keeps up his work generally.

I should add that those who sow the end of September and in October, should sow *more seed to the acre* than those sowing earlier.

Near Geneva, May 14, 1863. JOHN JOHNSTON.

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HUNGARIAN GRASS FOR HORSES.

Eds. Co. Gent.—I see in the Country Gent. of April 30th a communication from Hampton Dodge, on the "Culture of the Hungarian Millet," in which he states that he has received a number of inquiries in relation to the Hungarian, and he makes your paper the medium of answering. I wish to say a few words about this, for the benefit of those who have never used the article.

A year ago I sowed about twelve acres, determined to try it myself, though warned by a large number of persons who had tried it. I cut the grass early when it was in blossom, or before the seed got ripe, as everybody said the seed was injurious to horses, and some said to cattle also. Last fall I had a span of mares and a span of mules. I fed them on this Hungarian all winter. This spring one of the mares died with the stiff complaint; the other is a little stiff. One of the mules I can use on the farm, though he is not right exactly, was a good deal out of fix, but is better now. The other can't be used at all; has the stiff complaint. I thought mules could eat it with perfect impunity. Now I am satisfied that the Hungarian is the cause of all this trouble. Everybody in this part of the country thinks that Hungarian won't do to feed to horses. It has been tried here thoroughly.

Aledo, Ill., May 6. H. S. SENTER.

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SOILING CATTLE.

Messrs. Editors—As there is much inquiry and something said in your paper about soiling, I will give some of my views and experiments in the practice. I cannot give weight and measure in the business, but by comparing results with others who practice the usual mode of farming, I think it quite as conclusive. The first farm I owned contained 40 acres of poor hard clay soil, and would not the first year afford feed for two cows and one horse, although 30 acres had been under good cultivation by Esq. Slip-Shod. Here I was with my little all invested in a *clay-bank*, and as the saying is, I had to fish or cut bait. Upon looking over the neighborhood, I perceived that to succeed in my undertaking I must have counsel, and at once decided to take the best agricultural paper I could get. The choice fell upon your own; which I have since read and re-read with both pleasure and profit. The first two or three years of my taking it, I looked and looked in vain for something on the treatment of clay soils, and was about to give up in despair, thinking nobody had a hard clay farm but myself; when all at once somebody let the cat out of the bag—clay farms were quite common in the world. About this time the subject of soiling was hinted at. I at once resolved to go into the practice. My farm cost me $845, leaving me no capital but my head and hands to work with. At this time I had made but little improvement, except to set out fruit trees and clean up generally by taking off old logs, stones, stumps, briers, &c., &c.

The practice of soiling soon convinced me that it was a very great improvement over my former and the usual mode of keeping stock, and in less than six years kept ten cows and a span of horses in good condition, and was offered $1,600 in gold for my farm. My main business has been keeping cows for making butter. Aside from this, I have raised some colts and calves. I have sought to know what are the best and most reliable crops to grow for soiling; have grown and used corn, clover, rye, oats, and roots, and now conclude to use corn, clover, and beets. Last season I kept five cows and two horses, pasturing three acres, and using less than an acre in corn and clover for cutting and feeding in the stable. The corn yielded at the rate of twenty-two tons per acre, and the clover three heavy clips. I consider green corn-stalks most admirable feed for horses, cattle, and hogs; have fed it freely, and find it unequalled by any green crop for feed or yield. Clover comes next for summer use, but must be used with care; should be mixed with dry feed. I have fed green corn-stalks to all my stock,—even to work-horses—as I do dry hay, and perceive no evil effects; have observed that both cattle and horses have a great relish for salt when fed corn-stalks.

Soiling, with me, is no longer an experiment. I consider it the sheet anchor to good farming; a perfect regulator to the whole machinery; a complete specific for nearly every draw-back on good cultivation. Every farmer should practice it to a greater or less extent, whether his farm be large or small. It pays in different ways even at the present price for labor. You get manure to keep the clover from being thrown out by frost; it makes manure that will soon double the yield of the hay crop, so that it takes about one-third less labor to get a ton of hay; one-half is saved in land, and half in fences. It makes manure to spare for the garden, the orchard, the flower-beds, the lawn, the ornamental shrubbery, &c. Quincy has truly said the manure crop is the most profitable one for the farmer. R. H. Mack. *Parma, Ohio, May* 8, 1863.

HUNGARIAN GRASS SEED.—

500 BUSHELS

new crop Hungarian Seed for sale by F. A. SCHWILL,
Seed Warehouse, 64 Sycamore-St.,
May 14—w3t. Cincinnati, O.

POTATOES.—

"GARNET CHILI,"

celebrated as the most productive, and the only sort entirely proof against rot; raised on dry sandy soil, for sale at $2 per barrel, delivered in any part of the city by LALOR BROTHERS,
May 14—w4t. 83 Genesee-St., Utica, N. Y.

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Messrs. C. Dord & Co., Importers, New-York City.
Messrs. Edward Hart & Co., Merchants, New-York City,
Messrs. Frost & Co., Genesee Valley Nurseries, Rochester, N. Y.
George R. Mumma Esq., Dayton, Ohio.
Messrs. T. B. Yale & Co., Nurserymen, Rochester, N. Y.
S. B. Marshall, Esq., Prospect Hill Nursery, Massillon, Ohio.
J. E. Ilgenfritz, Esq., Nurseryman, Monroe, Michigan.
Messrs. Hoopes & Bro., Cherry Hill Nursery, Westchester, Penn.
T. J. Shallcross, Esq., Nurseryman, Locust Grove, Kent Co., Md.
May 7—w1y.

CENTRAL NEW-YORK SEED DEPOT.

SEEDS.
SEEDS.
SEEDS.

We are now offering the largest assortment of FIELD, GARDEN and FLOWER SEEDS west of New-York.

We call particular attention to our importations of true Early Kent and Champion of England PEAS. Also the celebrated PEAVINE CLOVER and GARNET CHILI POTATOES.

LALOR BROTHERS.
April 23—w8t. 83 Genesee-St. and 7 Catharine-St., Utica, N. Y.

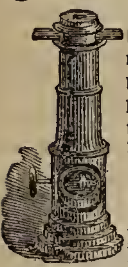
WHITE CLOVER SEED—Of superior quality,

our own importation. R. H. ALLEN & CO.,
April 2—w8t. 189 & 191 Water-Street, New-York.

EARLY KENT PEAS

A choice lot for sale by W. E. P. BAYLIS, Druggist,
(Successor to Webb & Walker,)
Feb. 5—wtf. 108 Genesee St., Utica, N. Y.

CRAIG MICROSCOPE.



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A liberal discount to the trade.

Retailed in Albany by GEORGE F. UDELL, 536 Broadway, and by BENJAMIN MARSH, 34 State-Street. In Troy by YOUNG & BENSON. April 2—w&m1yr.

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MILCH COWS AND DAIRY FARMING;

Comprising the Breeds, Breeding, and Management in Health and Disease, of Dairy and other Stock; the selection of Milch Cows, with a full explanation of Guenon's Method, the Culture of Forage Plants, and the production of Milk, Butter and Cheese; embodying the most recent improvements, and adapted to Farming in the United States and British Provinces. With a Treatise upon the Dairy Husbandry of Holland; to which is added Horsfall's System of Dairy Management. By CHARLES L. FLINT, Secretary of the Massachusetts Board of Agriculture; Author of "A Treatise on Grasses and Forage Plants," &c. Liberally Illustrated.

The above valuable work—the best, we have no hesitation in saying yet issued upon the subject—is for sale at the office of this paper.

Albany, Jan. 1—w&mtf. L. TUCKER & SON

SWIFT'S LAWN MOWING MACHINES.—

ALLEN'S PATENT CYLINDER PLOWS.

Prices and Circulars furnished on application by
R. H. ALLEN & CO.,
April 16—w8t. 189 & 191 Water-Street, New-York.

IMPROVED SHORT-HORNS FOR SALE.—

The subscriber, wishing to reduce materially the number of his herd, offers for sale at low prices, BULLS, BULL CALVES, COWS and HEIFERS, all having

GOOD PEDIGREES.

A Catalogue will be sent, with prices marked, to any one desirous of purchasing.

Apply at Ellerslie Farm, one mile south of Rhinebeck Station. Hudson River railroad, or by letter addressed to
May 14—w&mtf. WILLIAM KELLY, Rhinebeck, N. Y.

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LALOR'S

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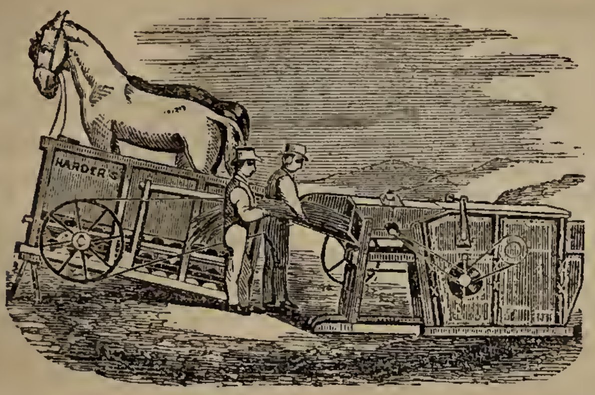

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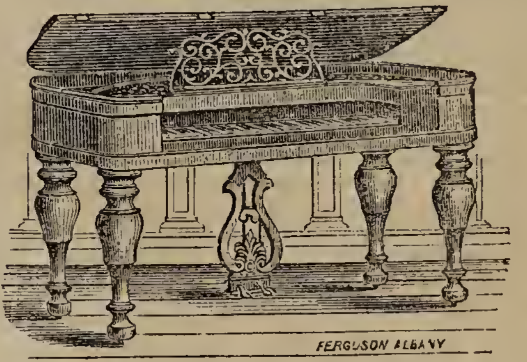

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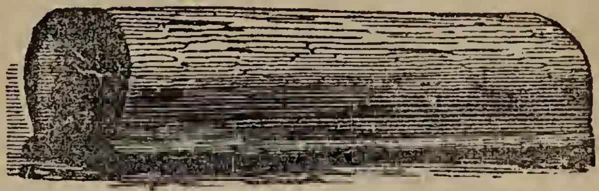

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VOL. XI. ALBANY, N.Y., JULY, 1863. No. 7.

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ENGLISH AGRICULTURAL MACHINERY.

The Jury in Class IX of the International Exhibition at London, in 1862, have lately submitted their full report, drawn up by the able hand of Mr. JOHN C. MORTON, who is probably more thoroughly qualified for such a task than any one else who could have been selected for the purpose. This Ninth Class was the one embracing the Machinery of the Farm,—including (*a*) implements of tillage; (*b*) implements of carriage; (*c*) tools directly connected with the cultivation of plants, and (*d*) implements used in harvesting their produce; (*e*) the machinery of the barn, and (*f*) the tools and implements of the feeding house and dairy. It constitutes thus *par excellence*, the Agricultural Department of the Great Exhibition, and the foregoing classification could not well be more complete, —embracing, as Mr. Morton's report remarks, "the plow, the cultivator, the harrow and the roller, in the first class; carts and wagons in the second; sowing machines, whether of manure or seed, and horse hoes in the third; reaping and mowing machines, hay tedders and horse rakes in the fourth class; thrashing machinery, winnowers, corn-separators, weighing machines, &c., in the fifth class; and corn and cake crushers, flour mills, turnip-cutters and pulpers, chaff-cutters, steaming and cooking apparatus, churns, cheese-making apparatus, and dairy utensils in the sixth class,"—all of which implements, directly connected with the management of the farm and its crops, were represented at the Exhibition.

It was considered impossible by the Jury who acted in this Department, to give detailed illustrations and specifications of the advance which agricultural machinery was proven to have undergone during the eleven years since the preceding "World's Fair" at London in 1851. But Mr. Morton introduces the report by briefly noticing "four particulars in which that progress has been so marked, that some reference to them is unavoidable." These particulars are of almost as great interest to the American as they are to the English farmer, and we therefore propose to give below the portion of the report referring to them, somewhat condensed by the omission of details irrelevant to its general bearing.

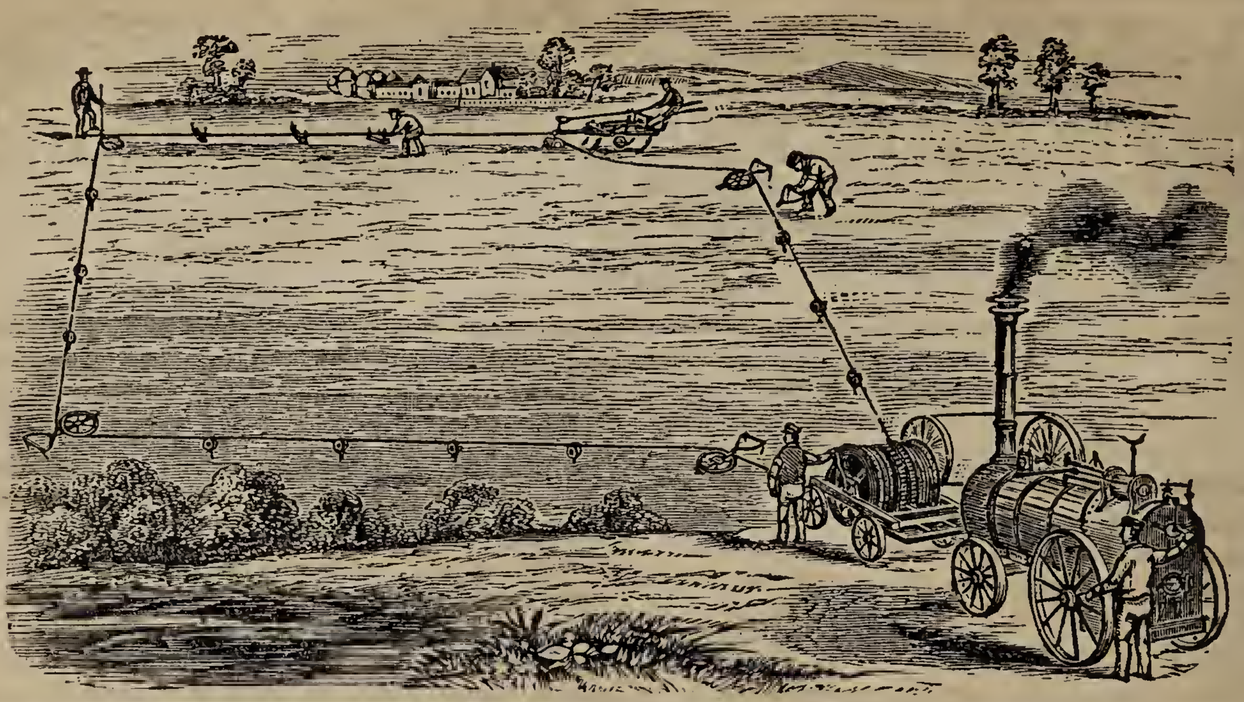
1. Portable Steam Power.

One of the most prominent features in the advancement of English agricultural machinery since 1851, says Mr. MORTON, "is the immensely increased use of the movable steam-engine. Although the fixed steam-engine had been long employed for thrashing corn in some districts of the country, it was not till, with its boiler and its furnace it was placed on wheels, that steam power came into general use in England for this purpose." The rapidity with which its use has extended, is illustrated by the statement that a single firm, (Messrs. Clayton & Shuttleworth of Lincoln,) who sold in 1852, 243 movable engines, aggregating 1,349 horse power, now find a market annually for more than double that number of engines representing a triple aggregate power. While this increased demand includes large foreign as well as domestic sales, "it also represents a very great alteration in the whole style and character of one very important department of English farm management. * * * The work of thrashing corn may now be said to be done in England almost entirely by steam power. Since the date of the previous International Exhibition here, the use of the flail has been gradually disappearing, and with the flail the whole character of the winter employment of a large body of agricultural laborers has changed; barns are disappearing, and other parts of our homesteads and farm buildings are partaking of the alteration."

In connection with the above it may be remarked, that a similarly increased use of Portable Steam Engines may be eventually anticipated in this country. Since 1850 the use of threshing machines driven by horse power has displaced the flail here almost if not quite as completely as steam machinery has done so in England. But we look forward to a time as not far distant, when steam will prove more economical than horse power, in our largest grain growing regions; if indeed, where farming is conducted upon the largest scale and in the most thorough manner, such is not already the case. There are Portable Engines now made in this country (for example, the compact and serviceable engines of Wood & Mann of Utica,) which we should be glad to have had shown at the London Exhibition; for, if the important considerations of simplicity, effectiveness and *price*, are taken into account, they would compare to advantage we have no doubt, with any machinery of English make, although superior in elegance of finish and weight of parts.

2. Steam Plows and Cultivators.

"It has contributed," Mr. Morton next remarks, "and



Steam Cultivation by a Portable Engine, on Howard's System.

will still more contribute, to increase the manufacture and employment of movable steam engines, and especially those of extra power, that within the last few years the cultivation of the land has been successfully effected by steam power. Of this nothing like a certain promise existed in 1851, though long before that time the problem had occupied the minds of sanguine men.

"Steam plows and cultivators constitute one of the leading features of the agricultural section of the Exhibition of 1862. Mr. Fowler, of Leeds (2115), exhibits his 14 horse power engine, which travels along a headland, while from it around a horizontal pulley underneath, a wire rope extends to the other end of the field, there embracing a corresponding horizontal pulley underneath a low carriage on sharp wheels, which, sinking into the ground, constitutes an anchorage against a lateral pull. The pulley under the engine has movable rims which grip the rope tightly wrapped around it; and so, as the engine works this pulley, it draws the rope to and fro around the anchor pulley. The engine travels along its headland, and the anchorage travels along the opposite headland, and the rope, drawn to and fro between them, drags as a link in its length a framework of plows and cultivators, which thus turn over or stir the land in their course. Mr. Howard of Bedford (2131), exhibits an ordinary thrashing steam engine, which he uses for cultivation in the manner adopted by Mr. W. Smith of Woolston, Buckinghamshire. He stations it in a corner of the field that is to be cultivated; by it he works a double windlass, one barrel of which winds up a wire rope, while the other lets it off alternately, and thus this wire rope is drawn to and fro around pulleys stationed in the corners of the field that is being worked. As a link in this rope, a three or five tined grubber, or, as in Mr. Fowler's apparatus, a plowing machine, is placed; it is thus drawn to and fro from end to end of the field, and so breaks up the stubble or unplowed land on which it works."

The above two methods of accomplishing Steam Cultivation were the only ones completely represented, and they are the only ones which have stood the test of actual practice. "Both," says the report, "are now unquestionably agricultural successes, and are receiving rapid adoption throughout the country."

The importance of Steam Plowing to the American farmer at the West, especially, cannot be doubted, and can scarcely be overrated. And we cannot too frequently call the attention of our experimentors and inventors in this line, to the leading fact, that if the successful experience of English manufacturers is worth anything to us at all, it is in the ample demonstration it affords of these two points—first, that *traction engines* cannot be made to plow, and, second, that effort can be made with reasonable promise of success, in the direction of a simpler and yet equally effective apparatus than the English have yet devised, for carrying the plow through the field by the agency of a *portable engine on the headland.*

3. Reaping and Mowing Machines.

In copying from Mr. Morton's report what is said on this subject, we *italicise* the official recognition it contains of the importance of these American inventions in Great Britain. "The third feature," he remarks, "in which our agriculture in 1862 entirely differs from that of 1851, though really originating long before that time, *may be said practically to have arisen then, and to be one of the results for which we have to thank the first Great International Exhibition.* Reaping and mowing by machinery are now generally practised, *and for this we are indebted to the American exhibitors of eleven years ago.* Hussey's and McCormick's machines, then first shown in England—and Bell's reaper, which had for many years previously been annually used by the brother of its inventor on his farm in Scotland—have, since then, in the hands of Cuthbert and many other makers, Burgess & Key, and Crosskill, respectively, been greatly improved and adapted to the circumstances of English crops; and machines, especially on the 'Hussey' principle, have been introduced by Cranston and by Burgess & Key for mowing grass. *There is now no large arable district in the country where the reaping machine is not employed, nor any extensive district of pasture land where the mower is not at work.* In some counties most of the reaping is now done by machinery, and the practice is every year extending."

4. Root Pulpers.

The employment of machinery for *pulping* the food of live stock, is the fourth and last of the items in mechanical advancement to which this report refers—that is, machines which do not, "as hitherto, merely cut into slices or finger-shaped pieces the turnips and mangel-wurzels given to sheep and cattle, but reduce them to a state of thorough comminution, so that when mixed with chaff of hay or straw, the whole should rapidly ferment or heat. The process has two advantages; it mixes up, past all power of separation, the various qualities of hay and straw employed, which are thus uniformly interpenetrated with the juices of the root thus mixed with them, and so there is now no power, nor indeed any desire in the feeding animal to select certain parts and waste others, which is continually seen when they are fed on long hay; and it also, by the fermentation which ensues, subjects the food thus prepared to a sort of preliminary digestion, which is found to be of great use in the fattening process."

Beyond the four points above mentioned, English agricultural machinery remains very much as it was eleven years ago. Some slight modifications are noted in the following extract:

Implements of Tillage, excepting the steam plow and steam cultivator, remain pretty much as they were. Plows are not essentially different. Harrows remain nearly unaltered, the only exception to this being the use of the chain harrow—a surface of interlaced quadrangular four inch links of iron, which drawn over the land, is found efficiently to break down the smaller clods and cover seed, or evenly distribute manure upon grass land. Rollers exhibit in many forms the principle which ten years ago was the exclusive and patented peculiarity of one, viz., Crosskill's clod-crusher. Grubbers and cultivators and broadshares have not materially changed in ten years, though Bentall, Coleman, Clay, &c., each make implements of this class which were then unknown.

Machines of Carriage.—Carts and wagons are pretty much what they were.

Tools Employed in the Cultivation of Plants.—Sowing-machines and horse-hoes do not materially differ from the best of those of ten years ago. We have now, however, the water-drill, which we had not then, a machine which not only deposits seeds and manure, but washes them into the ground, and thus prepares an artificially moistened seed-bed, where they shall sprout in spite of drouth. And we have in the turnip field, but merely as an exceptional curiosity, the revolving horse-hoe, by which rows of young plants are bunched out to facilitate their being afterwards singled out by hand hoes. All the principal machines of this class exhibited here, though certainly improved in parts and in details, are, however essentially the same as they were in 1851.

In Harvest Machinery.—As already said, a great advance has been made. Besides, however, the reaper and the mower, there are in this class the hay-tedder and horse-rake, in which the improvement effected has been nearly of the kind just named—one of detail of construction, involving nothing essentially new. Perhaps the straw-weaving machine of Messrs. Maggs & Hindley, of Bourton, Dorset (2148), for preparing a fabric of straw which may at once be laid as thatch upon the rick should be named in this class as a successful introduction of the last few years.

The Machinery of the Barn.—Including thrashing machines, winnowers, corn and cake crushers, weighing machines, mills, &c., certainly have exhibited great improvement of late years—but here, too, it is one of parts and of details. The movable thrashing machine is much more efficient and compendious than it was, and it includes many new devices for shaking the corn and straw apart, and for lifting the former and its chaff from one part of the machine to another, and even for lifting the latter to the rick. The grain, too, is turned out from it, weighed and sorted, and thoroughly cleaned and ready for market; but here, too, the alterations are of construction and detail.

The Tools of the Feeding House.—Include the pulper, to which reference has already been made. Beyond this, no entire novelty occurs in this class of tools.

In the Dairy.—We have cheese-making machines, by Keevil and by Cockey, in which the separation of the curd and whey is effected by a uniform and systematic process, instead of being dependent on the irregular movements of the dairy-maid; and hand presses for squeezing butter dry are exhibited by Messrs. Hancock (2124.) Otherwise no novelty of any important kind is exhibited here in that section of Class IX. which belongs to the United Kingdom.

GETTING THE QUACK OUT.

Couch, or quack grass, which A. Van Voast mentions in the Co. Gent. of May 7, I suppose to be the same as is usually called dog grass in this vicinity. It may be got rid of with very little cost more than the loss of the use of the land for one year, in two ways: First, take a few posts and rails, fence off a piece of the infested ground, turn in as many good *working* hogs as one chances to have; then take a crowbar, having made a few holes with it, put a little corn in the holes, at the same time scattering some on the ground. The hogs will root after the corn, and will eat the corn and grass roots together. The more there is of it, the better for the hogs, as they will root the land over until the whole of the grass is killed. When another piece can be dealt with in the same manner.

The other way is to plow well two or three times in the course of a season, sowing salt freely upon the land. Of course no crop need be expected if either course is taken, but the next year an abundant one can be had without any manuring, nor is the land in *bad* condition for grass for a series of years.

These methods have both been tried by an old friend of mine in the south part of this State, on a piece of land from which he could get no crop at all, it was so badly infested with quack grass, but he has not been troubled with it since on this field.

West Boylston, Mass., May 16, 1863. BROOKS.

To Kill Lice on Young Chickens or Turkeys.

Take of any oil that one happens to have on hand 3 parts and one part kerosene oil—shake well together; apply as follows: Take the young chickens or turkeys when about twenty-four to forty-eight hours old—just at night is the best time; hold the chicken in one hand, while the oil is applied with a finger of the other hand to the head of the chicken, being careful not to get the oil into the eye, although it would do no farther harm than to make the chicken feel a little uncomfortable for a few minutes. The application at the above mentioned age, and again, if needed, at about one month old, will prevent lice troubling chickens. To tell whether a chicken is lousy, observe whether it is more fond, than usual, of being brooded by the hen, whether its wings droop or seem to grow faster than its body. These are sure signs that lice are eating away the life of the chicken, and it will die in a few days unless attended to at once.

Should the nests where hens incubate become infected with lice, take kerosene oil and an old brush or a bit of cloth, and apply the oil freely to the wood work of the nests. There will be no lice alive about those nests again for weeks. If hens get very lousy, kerosene oil reduced one half may be applied to the head, neck and rump of the fowl; two applications one week apart will kill all; but if fine loam, 3 parts, and ashes one part, are kept where the hens can wallow in it, they will not be troubled again with lice, although the hen house should not be renovated with whitewash oftener than once a year. The free use of kerosene oil in a henery will prevent all trouble from lice, as they will not stay where its pungent odor is.

Can you or any of your readers tell me where I can get a dozen eggs of the *pure* White Dorking breed? Should prefer to get them as near home as they can be found, as eggs that are jarred much in transportation are not as likely to hatch as well. Brooks.

West Boylston, Mass., May 11, 1863.

THE TRUE CAUSE OF THE POTATO DISEASE---Can it be Cured?[*]

BY PROF. S. W. JOHNSON.

That the Potato disease is as ancient as the potato itself, there can be no reasonable doubt. We have no exact observations as to the occurrence of the potato fungus (Peronospora) in the native land of the tuber; and the climate is such as to be on the whole unfavorable to the development of the fungus, being elevated, airy, and of equable temperature; nevertheless many accounts have come to us which indicate that the rot is by no means unknown on the Cordilleran table-lands. The Jesuit Joseph Acosta observed in Peru in 1571, that the tubers of the potato often spoiled in the earth, during or after cold bad weather, from "blight or mildew." Payen, in the Proceedings of the Paris Academy, mentions that according to communications made by Mons. Goudot, a disease prevailed in the Cordilleras, which if not identical with, had the greatest resemblance to the tuber-rot of Europe and North America. Boussingault sent to the Paris Academy in 1845 a letter from Bogota, in which was stated that on the table-lands of that vicinity the potato *spoiled in moist situations every year, and in wet seasons spoiled everywhere.*

Similar statements indicate that the disease was locally known in Europe before 1845. Harting, in Holland, v. Martins, in Bavaria, and other trustworthy observers, saw and describe the Peronospora in 1842. In Alsace, a malady corresponding to the potato rot was observed in 1816; the same happened in the neighborhood of Orleans, France, in 1829. Finally, in a treatise on the potato, written by Ludwig in 1770, but 50 years after the field culture of this tuber had become extensive in Germany, and 10 years before its introduction into France, occurs the description of a malady or "visible blight" which attacked the tubers, and could be seen on paring the potato, as a brown or black discoloration. It is thus probable that the potato fungus was imported with the potato into Europe and North America, and is the universally existing cause of the disease. The epidemic form which it has assumed of late years, is due to the wide-spread presence of the conditions favorable to its rapid multiplication, and in no small degree to the fact that the culture of the potato had been immensely extended for a number of years previous to the appearance of the epidemic.

The cure can only be accomplished by destroying the cause. It would appear, so universal has the disease become, that to remove the cause—to extirpate the fungus—is an impossibility, and really we are compelled to believe that such is practically the fact. At the same time, a knowledge of the habits of the fungus, may enable us in most cases to avoid the rot to a good degree.

The grape fungus *Oidium Tuckeri* and other forms of mildew are subdued by sprinkling with sulphur. These fungi however grow on the *surfaces* of the plants they injure. Since the potato fungus penetrates the interior tissues of the whole potato plant, it is doubtful if any effectual means of poisoning it without doing injury to the potato, will ever be discovered. Mowing off the tops of the potato when they show symptoms of blight has in many cases saved the tubers. In other cases it has failed, because a crop of the fungus spores has notwithstanding penetrated the soil to the tubers. Doubtless the removal of the tops from the field altogether, in the early stages of the blight might be effectual in cases where simple mowing would not answer. Deep-planting is remedial if not in all cases a remedy. It operates by putting the tuber below the reach of the spores that fall on the ground from the blighted foliage. We observe that deep-lying potatoes are often sound, when those above are decayed. We should hence expect to find that such varieties of the potato as naturally issue the root-stocks and tuber-buds deep in the soil, would be less liable to rot than the shallow-rooted kinds. Deep planting cannot be expected to prove an entire cure in all cases, since no reason is manifest why the fungus should not travel down to the tubers through the root-stalks. Again, potatoes if planted too deep do not sprout readily, and consequently make a feeble growth. The buds of the potato tuber, like the germ of a seed, cannot make an iota of progress in development, without the constant co-operation of oxygen gas. If the supply of this indispensable agent is cut off, they perish; if it be furnished them in insufficient quantity, they grow slowly, and the process of growth is easily checked and converted into one of decay. The German peasant has a saying, that "potatoes must be planted so as to hear the wind blow." Potatoes sprout best when covered but two or three inches, if the covering be soil.

Dr. Kuhn (now Professor of Agriculture in the University of Halle in Prussia, formerly director of large estates in Germany, and author of a valued work on the diseases of agricultural plants, has for many years employed the following mode of culture with success: The potatoes at planting, are covered lightly two or three inches, and without raising the ground over them. *So soon as the tops begin to appear* above the surface, the soil is thrown over them loosely, and as deeply as possible, by a shovel-plow or other suitable instrument. A light wooden harrow is now made to traverse the ridges lengthwise, so as to break down clods and fill up cavities, but not to reduce the height of the ridges much. In a few days the sprouts appear again with renewed vigor, and the cultivation is then continued as usual to the end of the season. It is important that the sprouts should be covered before they get much above ground, otherwise they turn yellow and suffer. It is *stems* and not leaves that must be buried. This method is not practicable on heavy, tenacious soil, but may be employed on all lands that are well adapted to potato culture. It is well known that hilling the potato increases the crop, for the reason that the tubers are produced on stalks which issue from that part of the stem which is between the surface of the ground and the true roots. The longer the vertical subterranean stem is, then the more numerous will be the tubers formed.

The French gardener, Hardy, has proposed a method to destroy the fungus, (which he supposed, but did not prove to cause the disease,) that has been much advocated in the south of England. The potatoes are planted as usual, and, as soon as the blight appears, the tops are pressed over with a roller, and kept flat. His idea was that by this treatment spores would be washed off the plant by the rain and rendered innocuous. It is found that while potatoes thus treated are not entirely saved, they are generally less, and sometimes far less, damaged than when the rolling is neglected. The obvious explanation is that the spores that are carried by rains from the tops into the ground, mostly, or in a great degree penetrate the soil *between* the rows, and thus come less into contact with the tubers.

Still more efficacious is the method of Hornsey, which consists in laying off the potato tops, half right and half left, along the rows and throwing soil upon the ridge among the stems and roots. If the potatoes are well hilled up and treated in this manner, in most cases a great saving may be expected, according to the testimony of English farmers who have employed it.

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[*] Continued from page 157.

Short's method, consisting in trodding down the stems and covering them 6 inches deep with soil, is not only too expensive for general use, but has not proved specially efficacious, for if the covering is done early, the potatoes, though they remain sound, are small and unripe, while if done late, the stems decay rapidly under such a cover of soil, and develop so much heat and moisture that the fungus multiplies extraordinarily, and the rot so far from being checked is greatly aggravated.

Prof. Bollmann of St. Petersburg, proceeding from the conviction that the cause of the disease goes into the field with the seed tuber, proposed to destroy that cause by heat. He directed to dry the tubers by artificial heat until they had shrunken together and lost a good share of their moisture. This method in his hands, and in the hands of others, has succeeded in some cases; in others it has failed. It deserves more careful and extensive trial. The failures that have been observed in attempting to test this method may easily be accounted for without supposing that the method itself is a failure. It appears highly probable that the spores of .the fungus might be destroyed by a *dryness* that would not damage the potato bud. Artificial drying, however, would likely be conducted at too great a temperature, such as to dèstroy some of the potato germs. The potato should be cut into small pieces, with one eye to each, and then allowed to dry perferably at a low or only moderately high temperature, until they are hard and brittle.*

Mr. Holland (Sussex county, England) cultivates the potato in the following manner: The land was dunged in autumn, plowed again on a mild day in winter, and furrowed at planting time, at distances of 30 inches, as deeply as possible, in a northeast and southwest direction. On the ridges thus thrown up a furrow 8 inches deep is made and the potatoes are dropped at distances of six inches; they are then covered with the finest, lightest earth to be had. Twice monthly the soil is hilled up against the potatoes. When the blight manifests itself, its progress is carefully watched, and as soon as it has attacked the main stem, all leaves are stripped off and the diseased stems are also removed, the plants being left, either to dry away or send out shoots as the case may be.

The skillful and intelligent farmer will begin with the seed potatoes, and be sure that no diseased ones go into his field at spring time. If the stock of seed on hand is diseased, the potatoes should be cut, each one carefully examined, and all diseased pieces rejected. If cut a month before wanted, all the better. The soil should be well drained, rather light, and not freshly dunged with fermentable substances. A high, airy locality is preferable. Cover the shoots several inches deep, as soon as they show themselves, and if the disease comes on violently, cut off the tops, unless the promise of succeeding dry weather is such as to make that trouble unnecessary by checking the development of the fungus. It would be well to give the plants a good deal of room, so that the stems and lower foliage may be reached by the wind, and thus kept from excess of moisture. If the blight shows itself but moderately, bend the tops away so as to leave the ridge uncovered. In hilling up avoid gathering the stems into a close bundle, but separate them, earthing *among* them as well as around them.

By these precautions based on the fungus theory, we may hope, in the larger share of instances—in all cases, indeed, save where fatility of situation or weather are against us—to raise fair crops of fairly sound potatoes.

Sheffield Laboratory, New-Haven, May, 1863.

SCYTHE SNATHS.

Messrs. Editors—I have a complaint to make against the scythe-snath makers. I make it in behalf of all interested.

They make the "heel-rings" for their snaths of limber iron, and much too slender for answering the intended purpose, viz., of fastening the scythe firmly to the snath. The driving of the wedge to fasten the scythe, causes the ring to become oval in form, and to pinch the wood at the sides of the "spot." This makes necessary the use of a hammer, in moving the ring backwards and forwards on the snath, which makes bad worse, as it bruises the edges of the ring, causing the wood at that part of the stick to chafe and wear away, so much so, indeed, as often to induce the use of wooden wedges and spike nails, driven in to fill up the ring and prevent it being strained still more out of form. I have noticed many of these rings which were less than one and one-fourth inches wide at the widest part, and did not weigh more than three and a half ounces, whereas one should weigh from five to six ounces.

A ring, to be substantial, should be made of stiff, strong iron, and should be two inches wide at the widest part, and seven-eighths of an inch wide at the narrowest part; one-eighth of an inch thick in the middle of the widest part, and three-eighths of an inch thick in the middle of the narrowest part, having its edges thinned so as to give it a round form on the out-side, like the rounded hoop of a cask. This thickness of the middle, braces against the strain of the wedge, and is economy of material for producing stiffness; instance the stiffness of the ribs of man or beast.

The heel-wedge should be two inches in length, one-half inch wide, and one-fourth inch thick near the head. In driving or loosening the wedge, it is best to use a piece of iron or steel, about six inches long, one inch wide, and one-half inch thick, for a "driver," plying one end against the head of the wedge, and using the hammer on the other end—as the cooper drives his hoops on the cask. The heel-ring should be moved backwards and forwards on the snath with the hand, never with the hammer.

Now, lest some patent-right pedler should inquire why I don't use some patent fixture for fastening the scythe to the snath, instead of the "ring" and wedge, I would say that I have never found anything their equal, when properly made—they being simple, safe, cheap, and durable. They will last more than a life-time, if taken care of, and not allowed to "rust out," instead of "wear out."

Bethlehem, N. Y., May, 1863. AMOS FISH.

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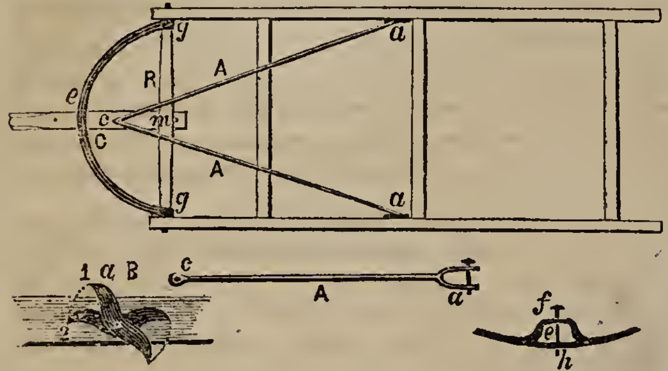
* The practice of an extensive Potato grower and close observer in this State, may be noted as in some measure corroborative of these suggestions from Prof. Bollmann. Hon. A. B. Dickinson informed us, in visiting his farm in Steuben county, 5 or 6 years ago, that it was his uniform system not only to cut the potato into small thin pieces with one, or at most two eyes in each, as above recommended, but to allow of their becoming quite dry by exposure to the atmosphere, and as a farther preventive of rot by affording additional protection against moisture, to coat the cut potatoes with a thin covering of tar and plaster before planting. (See Co. Gent., August 20, 1857.)

The careful reading of these valuable articles of Prof. Johnson's, we may add, can hardly fail to recall very much in support of the Fungus theory, in the common experience of the farm; and we are glad to know they have been received with the attention they deserve not only here, but also through the medium of the agricultural journals of Great Britain, into which they have been copied. Eds. Country Gentleman.

SELF-ACTING SLED BRAKE.

MESSRS. EDITORS—I notice in the Co. GENT. an inquiry concerning a brake for a sled. By your response I perceive that you are not familiar with one that has been in use in this neighborhood for the past two or three winters. It is really a valuable invention, though I believe not patented.

If by the accompanying sketch and description I can clearly convey to you an idea of its manner of working, you are at liberty to publish them. A tenon is cut on the back end of the tongue about 6 inches long, permitting it to play freely in the roller R, at m. The brace C, is made of a bar of iron 1½ inches broad, and ½ inch thick, bent edgewise in a semi-circular form, with the band, (made of the same sized iron,) through which the tongue passes at e, welded to the upper side of the brace; the ends are made fast to the ends of the roller at g. g. The sled is drawn by this brace; the tongue is protected on the sides where it passes through the band by iron plates. The dogs B, one for each runner, are fastened loosely by a strong bolt passing through the runner. The connecting rods are fastened to the upper part of the dogs at a. a., and to the tongue by a bolt passing down through both and the tongue at C.



A. Rod fastened to tongue at c. and dog at a.
B. Dog fastened to runner by bolt b. 1 shows its position when going down a hill. 2 when the load has to be drawn.
C. Brace through which tongue slides at e. and against which bolt through whiffle trees and tongue draws at f. and h.

In going down a hill the tongue slides back through the band e. and the mortice m., pushing the connecting rod backwards, which in turn push the upper ends of the dogs upwards and backwards, causing the lower ends of the dogs to move downwards about two inches below the runner scraping in the snow, effectually braking the sled and checking its progress. In drawing, the whiffle tree bolt passes sufficiently far through the tongue to draw against the edges of the band and brace at f. and h. To back the sleigh, a short bolt is inserted in a hole (d.) through the tenon, so placed that when the tongue is drawn forward it will be just in front of the roller; this bolt pressing against the roller prevents the tongue sliding back and working the brake. Of course this bolt must be taken out when the brake is to be used, and replaced when it is required to back the sleigh.

In putting one of these on a sled, the upper part of the tongue at C., must be blocked up enough so that the connecting rods will not touch the roller when the end of the tongue rests on the ground, or they will be bent and very much weakened. Neither must the upper part of the dogs be made so long or be so placed that when the tongue is raised the rods will touch the under side of the forward bench of the sleigh.

I have known a team of two horses weighing about 1,000 pounds each, to draw 1½ cords of wood at a load, on roads where they had to go down steep hills. The wood was loaded on a bob sled with a brake of this kind kept in good order. This brake is almost perfect for drawing heavy loads on a bob sled. It may be put on any sled for from $5 to $7. It is the best for a large common sled that I know of. Sometimes in going over a water-break or dusinberry in the road, with a long sled, if the dog is not properly shaped the lower end of it will strike the road in such a manner as to split the runner where the bolt b. passes through it.

If I have succeeded in clearly describing this break, I have partly paid the debt I owe to many of your correspondents. WILLIAM BARNES. *Newburgh*, *March* 31.

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Management of Meadows—Spreading Manure.

MESSRS. EDITORS—I fully agree with your correspondent A. B. DICKINSON, on page 250 Co. GENT., upon the subject of the management of meadows. Rolling meadows just at the right time is often a very difficult matter. If the ground is *wet*, or wet enough to pack, it injures the meadows far more than it benefits them, unless the soil is of a sandy or gravelly nature. And if very *dry*, it does them little or no good. The better way, I think, is to fit the ground *before seeding*, so that it shall have a fine, smooth surface, all obstructions to the mower being removed, and then sow on a liberal quantity of grass seed, and roll it in, when the ground is so dry it will not *pack* but *crumble*. Enough grass seed should be sown to give the meadows a smooth, even sod—the grass not standing in stools—so that when lifted by the frost, it will settle back to its original smooth surface in the spring. One great agricultural sin of which I think my brethren guilty—some of them—is the parsimonious way they have of sowing grass seed. The consequence of thin seeding is, the grass stands in clumps or stools, only a part of the ground being occupied, unless it be by weeds or thistles; and the freezing process tips these stools out of the ground, some lying sideways, and others bottom side up, and in the spring such meadows have a shockingly rough look, and at foddering time—to the eaters thereof—a shockingly *coarse*, light crop of hay.

Now to roll these meadows, for the purpose of getting the roots of the grass back into the ground again, the work must be done when the ground is *soft*, or it will be labor in vain. Of two evils, I should choose the least, and keep the roller off from the meadows. Formerly I practiced rolling meadows, but became satisfied that I had got the wrong ball in motion, and abandoned it. I think it often injures the crop of grass if the rolling is done when the ground is soft and dry weather follows, and that the soil is injured by rolling when wet, I have no doubt. The better way, I think, is to sow enough grass seed to get a close compact sod, on a fine, smooth seed bed, and in the spring let it settle by the action of the rains. If in seeding the " catch " fails to be a good one, in September scatter on a little more seed, and a little fine manure, to make sure that the whole surface be covered with grass.

Spreading manure on meadows or elsewhere, is, according to my notion, a rather *nice job*. At any rate, I have found it very difficult to get this work done, as I think it should be done, by hired help; not one man in twenty knows how to spread manure. Many seem to think—not only hired help, but others also,—that it makes little or no difference whether manure is put in shovelfulls in a place, at intervals of three feet or so, or in lumps of any imaginable size, or whether it is broken fine and spread evenly over the ground. I never could succeed in spreading manure by the harrow; this implement will mix it with the soil, but it is left in about the same place, and in about the same condition, it was in when it fell from the fork of the spreader.

No kind of farm work has caused me more vexation, than that of spreading manure. I once had a ten-acre lot plowed in the fall, upon which I sowed barley the following spring. In March I drew 30 loads of fine, well-rotted manure on to one-half the ground, and dropped it in piles, to be spread just before working the ground for sowing. I had a gentleman from the Emerald Isle in my employ, and at the proper time set Pat to spreading the manure. I gave him particular directions to spread it evenly over the ground, and break the lumps, if there should be any; and not only so, but fearing he might not do the work to my liking, I went with him to the field, with shovel and fork, and spread a few piles as a pattern for him to follow; told him expressly to use the *shovel*, after he had spread all he could conveniently with the fork, and to scrape the ground clean of manure where the piles lay. "Indade, Sir," said Pat, "an it's me that larnth how to spread manure in the ould cunthry." Hoping he might be an adept, though having some misgivings, I left him, and did not go to the field again until the next morning, when he told me he had nearly *finished* spreading the manure. I did not think it possible, but on going to the field found it was even so—it was nearly finished. But how had the work been done? Why, Pat had followed the pattern set him, as near as Pat is capable of imitating, in the spreading of three or four piles; but he did not find it "convanient" to use the *shovel*, and had spread or rather *raked* the piles to pieces with the fork, leaving nine-tenths of the manure in the immediate vicinity of the piles, and in such a shape that it could not be re-spread to advantage. Being slow to wrath, I said but little, but thought and felt the more. It would be hardly worth while, however, to record my mental exercises, just then, in the COUNTRY GENTLEMAN.

Now, notwithstanding the ground was cultivated both ways before the seed was sown, and dragged both ways after sowing, the manure *did not* get spread. The field, while the crop was growing had the appearance of artificial mounds where the manure was applied—the barley growing very tall and rank from the center of the piles, and gradually tapering off as it receded from the centre. And the next season these spots were plain to be seen in the growth of the crop then on the ground, notwithstanding the plowing and dragging for that crop.

I think manure should be broken fine, and spread evenly by the *fork or shovel*, and not trust to some other agent to do this work. J. L. R. *Jefferson Co., N. Y.*

LETTER FROM CALIFORNIA.

EDS. CO. GENT.—There is a large tract of alluvial land lying about fifteen miles below this ranch, invaluable for cultivation, made from the washing down of the mountains and hills a long distance above. To all appearance, this section of country was once a lake of water, as now on the rear there are three lakes, viz., Kern, Buenavista, and Tulare Lake. This tract is some twenty miles long by eight in width, embracing about 150 square miles, and surrounded by running water as may be seen by the maps of California. Settlers have commenced upon the track, more by accident than design, being mostly emigrants from the Southern and Western States.

This land has been surveyed, but is not yet in market. The settlers can preempt or hold it under the "Homestead act,"—160 acres.

The alluvial soil or sediment is very deep. I saw good corn grown there, planted the 8th of July, fully ripe. One man tells me he planted a crop of corn the middle of June, on new land, that matured; some ears stood fourteen feet above the ground. One yoke of cattle will break it up, and when under cultivation one good horse can plow with ease. Eighty bushels of corn can be grown in favorable localities per acre, without hoeing. I saw land recently plowed, well stocked with beans and potatoes, from the seed of last year that remained over. The best crops of wheat and barley grow upon lands only dragged over with a harrow.

The cultivation of the grape and wine making can be made a profitable business, as well as tobacco. Wheat and barley produce from 40 to 60 bushels to the acre. Peaches are very hardy and grow rapidly. Melons and other crops from the vine are grown by dropping the seed, in abundance. Trees at four years growth in the forest, may be found four inches in diameter and twenty feet high. I have seen willows that height at two years' growth. Fence can be made from the willow or the Osage Orange.

The settlers of this country have to go 160 miles to mill. There is water power on this tract or island. A small mill that would grind and sift the grain, at a cost of $300, would take tolls enough to support a large family in breadstuffs.

The freezing of water is unknown. One year with another, the average of falling water will not exceed eight inches. Enduring wood and water on this tract are indispensable, that many parts of California is deprived of. Water for irrigation is conducted upon the land at a trifling expense, though some crops and fruit trees in favorable localities do well without flooding.

The "El Tejon" grant is on one side of this. They have 400 acres of grain in one field that looks well; it was put in by the Indians.

On the 28th of February violet flowers were in full bloom, and butterflies in glad hosts paying their new birth-night obeisance to the morning's soft sunlight. The lazy man in this country need not starve where his wants are few. I have slept comfortably with raised windows much of the time since the first of March. A young man from Massachusetts stopped with us last night; he said it was the first in six months that he had slept in a house; his residence was forty miles north of here. Herdsmen mostly sleep in the open air, the ever bright skylight next above their covering.

Our post office address is Los Angeles, at San Fernando Mission. Twenty-five miles this side there is a large vineyard, planted by the Catholics seventy-five years ago, at present very profitable and productive. It is said these vines have never had any kind of manure applied, and only very slightly cultivated. Here also is the olive tree, two feet in diameter, from the fruit of which oil is manufactured, worth four dollars per gallon. The olives are sold in San Francisco at two dollars per gallon.

I will give you the process of wine making by-and-bye, according to the modern improvements at Los Angeles.

Kern River, April, 1863. SOLO. W. JEWETT.

THE WHITE GRUB IN THE CORNFIELD.

This insect has made fearful ravages in cornfields in this section of country, within the last few years. Its ravages are confined more to sward lands than any other, especially when plowed in spring and manured with green manure. A liberal dose of ashes put around each hill just before a shower, will be productive of a beneficial result. Salt sown broadcast over a field is also a good destroyer of worms. An effectual remedy is to dig them out; as soon as you notice your corn being cut down, call all hands into the field—boys and all, the more help the quicker done—let each take a row; follow on carefully noticing every hill; when a stalk is found cut, dig lightly around the roots of the same until you find the gentleman—take him out, bruise his head, and proceed through the field. This process continued twice each day, for ten successive days, will save your corn. This may seem a tedious job to think of—not so to execute. I saved a field of four acres last spring, which probably would have been entirely destroyed if left alone. The labor expended was but a trifle.

A better remedy still is to call on the crows. Some of your readers may laugh at this, but let them try it once. Keep all scare-crows out of the field. Sow broad-cast over your corn patch every night, a few quarts of corn; the crows will be at work early in the morning getting their breakfast, at which time the grubs are on the surface, and are picked up by hundreds. A few years ago my father had a field of corn in which he placed some scare-crows. The grubs commenced cutting down the corn; a friend advised him to pull down the scare crows and sow some corn over the field, which he did, and had the satisfaction of seeing his corn saved. The crows came on by scores. They will not meddle with the growing corn if they can find plenty besides. Try it, farmers, and report. F. E. W. *North Halley, C. E.*

TWO DAYS IN NEW-JERSEY---I.

The tributary streams of the Delaware—the Crosswicks, Assiscunk and North and South branches of the Rancocus creeks—which carry to that river the westward outflow of the county of Burlington, in New-Jersey, drain a region of quite diversified agricultural character,—in parts long settled and long under cultivation, and in some other parts still awaiting the hand of improvement. The surface is but slightly rolling—its general aspect being that of a succession of gentle slopes and almost level lowlands, with here and there an occasional ridge or bluff overlooking many miles of farming land around. The soil is widely variant on the Upland, abruptly changing from a light loam or sand, to quite a stiff and clayey consistency, on the same farm or in a single field. Along the head waters of the streams—particularly of the Assiscunk creek, which we had the fullest opportunity of examining in our recent visit—there are low and originally swampy Meadow lands, of a peaty character, underlaid in numerous instances with bog iron ore, and yielding, when drained and renovated, pasturage and hay of the richest quality and apparently for an almost unlimited series of years.

Not very far to the eastward of the region to which these remarks are mainly applicable, there are large extents of pine lands and cedar swamps, some of which may in time be brought under cultivation. Clearings are indeed increasing now among the pines, where the soil is not so hopelessly poor as to forbid the undertaking. In the Western part of the county, the proportion of woodland on the farms is decreasing as improvement advances, but we found rather more standing timber yet remaining than we had been led to anticipate—giving a beautifully variegated character to the landscape when seen from any elevation, while there are, here and there, detached trees, along the roads and in the fields, especially oaks and elms, which can scarcely be surpassed as single specimens for age and size.

With so many circumstances variously affecting different localities, even in the same immediate neighborhood, we can scarcely draw any picture of the Agriculture of Burlington county, as a whole, which would be applicable throughout. Our drives under the kind and experienced guidance of Messrs. Watson and Walter Newbold, extended over a circuit of perhaps twenty-five or thirty miles each day, giving us glimpses more or less complete, of many of the best farms in Mansfield, Springfield, Chesterfield, New Hanover, Burlington and North and South Hampton townships. In these a mixed husbandry is carried on,—combining the grazing and feeding of cattle and sheep, or the making of butter, with the production of the cereals, and to some extent of hay and potatoes as market crops, in such proportions as the individual character of the farms may render expedient.

The *best farms* are considered those which include a considerable area of the natural meadow land referred to at the close of our first paragraph. In the character of the upland there are also differences, as we have seen, which lead to a classification between farms naturally "good" and "poor." But, in point of fact, many which originally belonged in the latter division, by judicious management and the careful husbanding of their resources, are now among the most productive and profitable. And there are some other farms, on which there is meadow enough and as good upland soil as any, but where the lack of improvement or the overcropping of past years, has either left them at a stand-still or led to their partial exhaustion, while all around has yearly shown more or less change for the better. We may add yet another division, arising from the length of time since this part of the State was settled—farms which were probably selected at first as among the most eligible of all,—which were worn down in the progress of time,—but which during the past thirty or forty years have been renovated and brought up—in some more recent cases by the liberal expenditure of capital; in others, simply by the slower but not less certain means within the reach of moderate resources when superintended by a skillful and patient spirit of enterprise.

Farms of all these kinds were pointed out to us as we drove along the generally excellent roads of the county, and at some of them we had time to call and inquire more particularly into the purposes to which they were devoted and the measures of improvement of which they had been the subjects. These Improvements have been mainly in three directions:

I. Underdraining.

We have never been to our knowledge, in any section of the country, where *underdraining* prevails to so great an extent within a similar area as in this part of Burlington county.

It was begun at a very early day, being then confined mainly to the laying down of one or two leading drains in a field, to cut off the most troublesome springs, or perhaps occasionally to intercept the surface water from higher elevations. In the outset, wooden drains were in vogue, at first constructed of two poles in the sides of the drain, covered by a slab, or of three pine slabs—the lower two having their convex sides laid together at the bottom, with the third covering the aperture remaining open at the top. A drain of this latter kind we could still see in operation in a field at Locust Grove, the farm of John Black, Esq., by whom it was put down in or about the year 1814. Mr. B. was among the very first who introduced underdraining, together with the father of Mr. Watson Newbold, and Mr. Cleayton Newbold, the latter of whom still survives, residing with his son Mr. Walter Newbold at Cloverdale, of which farm we shall have more to say hereafter. At Crescent Farm, the residence of Watson Newbold, the earlier drains have been almost wholly superseded by others of later construction.

The second style of draining introduced was done by the use of two hemlock boards placed together at right angles, thus, Λ—one board five inches wide and the other six, with three slats connecting the bottom edges of the boards to keep them from spreading—one in the middle and one at each end. A strip of board was placed over the joints. This made a useful drain, and some of them, where the soil is such as to preserve the channel free, are yet doing service.

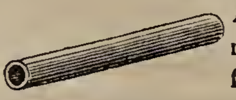
Although Draining was thus early known and practiced here by a few leading proprietors, the practice extended slowly and could not be said to have become general until within the past 15 years, since which time tile have been in constantly increasing demand for the purpose. The first tile machine was obtained from Albany, and there are now four tile making establishments within a short distance of Crescent Farm, which furnish them at about the same prices as are charged at the works in Albany. There are few farms of any pretensions to improvement, on which they have not been employed to some extent.

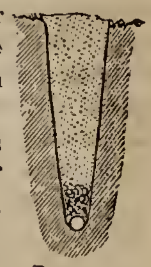
And there is probably no section of country in which their beneficial effects are more plainly apparent. Of the meadows we saw more than once, two fields side by side, one boggy and overgrown with coarse and almost useless grasses, in which cattle would sink at every step at the risk of being mired, and the other firm under foot, with a fine, thick sod, and as luxuriant a growth of green grass (*Poa pratensis*) and white clover, as we ever saw on the meadows of the Brandywine or in the best pasturage of Kentucky. The first cause of the contrast thus exhibited was the underdraining of the land, but combined as will be noted hereafter, with good treatment in other respects. In the grain fields, on the upland, moreover, we now and then passed one which would show a hollow or two almost bare of grain, or a long strip through which the results of superabundant moisture were equally apparent; and others, near by, presenting as even and complete a surface of waving straw as could be desired, and owing this pre-eminence almost wholly to the "underground crockery" they had received.

Where the surface is often so nearly a level, great care is essential in laying the drains to secure a proper and regular descent. Mr. Watson Newbold has found it expedient to put the lines of tile just below the water veins which seem to percolate the ground, at different depths in different cases; and in locating them, and judging as to their depth, a field in which the work was going forward afforded us an example of the care taken and the means employed to reach the best decision. Holes like post-holes were dug at intervals, and the distance below the surface at which the water began to come in was noted, as well as the rapidity with which it entered, and the depth to which it accumulated after standing. There is a hard and sometimes quite impermeable crust not far below these water veins, and by putting the drains so that the most of the water they receive will be likely to have a fall to enter the top of the tile, of two or three inches, they are less likely to be choked up or washed out of place, than if so laid that the water comes up from beneath and around them. The depth is varied accordingly, from three feet or even two feet and a half, to three or four feet, or deeper when requisite for short distances in certain cases. The general depth is about three feet, probably, but varies according to the above considerations, and Mr. N. was strongly impressed with the idea that *no uniform rule* could be promulgated, as some have attempted to do, as to the depth of farm drainage in all cases and in every variety of soil and subsoil.

Since we have ventured into this meadow where draining is now going on, a few remarks farther, as to the mode of opening the drains, may be suggestive to others in like situations. Mr. N. first opens two furrows with the plow, at such distance apart as suits the depth to which the drain is to be dug—say, for a drain three feet deep, so as to leave a strip of sod 6 inches wide between the furrows, which are thrown *outward*. The strip of sod is chopped transversely with the spade and thrown out with fork or shovel, and then two more furrows are plowed—this time turned *inward*, leaving a clean landside on each side the ditch, the remainder of which is excavated with the usual tools. Before covering the tile, which are laid from the upper end of the ditch downward, the man walking on the tile,—litter in considerable quantity is placed above them, especially if the soil is loose, and the final covering is done if it proves more convenient, to some extent at least with the plow.

The tile used here are the sole tile, very nearly round, except for a slight shoulder which gives them a flat bottom. We presume the pipe-tile which have now been almost universally adopted in England, in preference to any other pattern, will eventually supplant the style thus far prevalent, but they have not yet been introduced. As the subject of their relative merits came up for discussion, we adjoin here diagrams showing the pipe-tile and the manner in which it lies in the ditch, exactly fitting the concavity of the bottom—thus saving extra labor in excavating; and since, as Judge FRENCH says, "there is no *wrong-side up* to them," they may be fitted at the ends much more neatly, and are much less likely to be misplaced in filling the ditch. In places such as there are in some of these New-Jersey fields, where a loose sand intervenes for a short distance, *collars* would be necessary to keep the tile in place, and would do so more efficiently than a simple bit of board accomplishes this for sole tile when placed under the ends of the adjoining tiles. *Collars*, as our readers are aware, are simply shorter pieces of round tile, of a calibre just large enough to admit and hold in place, the ends of those which constitute the line of the drain.


ROUND OR PIPE-TILE.


DRAIN AS LAID WITH PIPE-TILE.

Pressure upon our space in this number obliges us to defer the continuation of the subject until another week.

L. H. T.

BLACK LEG, &c., IN CALVES.

MESSRS. EDITORS:—In the COUNTRY GENTLEMAN of June 4th, Absalom Hoover makes an inquiry in regard to a fatal disease among his calves. I should think from his description that it is what we call black leg, black thigh, &c., according to the situation of the black spots or tumors. In fact it has as many names as there are locations for the disease.

Youatt thinks that this affection is a pure inflammatory fever. Dr. Dadd contends that "it is an epizootic affection, and like most epizootics its pathology is obscure." He says "the causes of this affection are as obscure as the cholera, influenza, potato rot, &c. They seem to be independent of local causes, occur at uncertain intervals, prevail for an indefinite period, and run their course in a short space of time."

I have known quite a number of cases, mostly among calves from two to four months old. The subjects were calves that had had plenty of milk until time to wean, and then turned out to grass. Of course this sudden change of diet must injure the animal, and he becomes diseased. His digestive organs refuse to perform their functions, the secretions are stopped and disease makes its appearance in the shape of black leg, diarrhœa, hornail, bone disease, &c.

"An ounce of prevention is better than a pound of cure." To prevent diseases among cattle requires a considerable amount of care and attention. They should be well provided with suitable food and in suitable quantities. Over feeding is quite as likely to produce disease as under feeding. Keep them in a good thriving condition. Avoid forcing and stunting alike. When they are stabled see that they have plenty of pure air. Pure air, pure food and cleanliness are the essential points in sustaining the health of our animals.

Black leg generally proves fatal in this section. There are a thousand and one remedies, but they are more apt to kill than cure. The disease runs its course in so short a space of time, medicine is of no avail.

Warner, June 8th, 1863. S. C. PATTEE.

MAPLE SUGAR.

Eds. Co. Gent.—I have been a reader of the Country Gentleman, for years, and of its correspondence none is more interesting to me than that of practical farmers giving their experience and practice in that great and all important business, the cultivation of the soil. I consider an ounce of experience worth a pound of theory, and as agriculture has not yet been reduced to an exact science, and perhaps never will be, the farmer's guide must consist in the practical experience and close observation of the past.

When I ask the advice of my neighbor farmers about any of my farm operations, I place a value upon their suggestions in proportion to their experience and close practical observation. Theory, if plausible may perhaps justify a limited expenditure as a test, but large investments relying upon theory alone, are dangerous.

Pardon me—I intended to write about making maple sugar and molasses.

Having noticed several communications lately in the Co. Gent. on this subject, it occurred to me that my mite of experience might be acceptable to some one seeking information in that direction. I make no pretention to anything new, but give my practice for what it is worth.

I commence operations at any time after the middle of winter, when in my opinion the season appears propitious, which in this locality may take place between the 20th of Jan. and the 1st of April, but which more generally occurs from the 10th of February to the 10th or middle of March. I bore my trees with an auger 2 to 3 inches in depth, inserting a *spile* or spout made of the paw paw, (which I prefer to any other wood for that purpose,) and catch the water in wooden buckets holding 3 gallons, which until this season have cost me about 12½ cents each. When I haul in the sap I use a pair of horses to a sled, with two 40 gallon barrels. Taking a couple of empty buckets, I take a bucket of sap from the tree, leaving an empty one in its place.

The cheapest kind of reservoir I have yet used is a box or trough made of 1½ inch oak plank, seasoned, 2 feet wide, and 12 feet long I nail the bottom plank and the ends on to the two side pieces with 20d spikes, using the plank in the rough, as it comes from the mill.

After collecting the sap I reduce it by boiling as rapidly as possible, for the sooner it is boiled after running from the tree, the better will be the sugar or molasses. For boiling I use pans, the bottoms of which are made of No. 20 sheet-iron, and the sides of 2 inch poplar plank, the ends being a continuation of the sheet-iron bottom turned up and nailed to the ends of the side pieces. I use a furnace with grate bars and a door in front, and so constructed that the fire is in close contact with the bottom of the pans. I set one pan of about 6 feet in length on the furnace in front, and another 4 feet long beyond the first, next the chimney. In this smaller pan I finish off my molasses or sugar, and this pan can be removed from the furnace to cool, and be replaced by another of the same size, and the boiling continue without interruption.

My process of reducing the sap is this: I keep the larger pan supplied with fresh sap by means of a spout, with a coarse cloth strainer over the end, from the reservoir, so adjusted as to admit a supply equal to the evaporation from the pans From time to time I transfer sap from the larger to the smaller boiler, passing it through a fine woollen strainer. After accumulating a desired quantity in the small pan, and reducing it to a thin syrup, I clarify it by putting into a quantity which will make 3 or 4 gallons of molasses, the white of an egg beaten up with about a gill of sweet skimmed milk; the syrup should not be hot enough to at first cook the egg This entangles any sediment or foreign matter in the syrup, and when brought to the boiling point causes it to rise, when it is skimmed off, leaving the syrup clear and clean I then continue to boil it as rapidly as possible till it is reduced to the desired consistency. I have not used a saccharometer, but I reduce my molasses to what I suppose to be about 38 deg. My process of making sugar is to reduce the molasses to a degree which I should think to be about 48 or 50 deg. and pour it into a cask with one head out, with a spile at the bottom, and so add other lots from time to time, as they are made. In a short time, sometimes in a few hours the mass will begin to granulate, and after having stood some days or weeks, I pull out the spile at the bottom, when the molasses will drain out, leaving a white, coarse grained, mellow and beautiful sugar.

I consider this process the true mode of making maple sugar. I have entirely abandoned the old method of "stirring off" By that practice anything like a fair quality could only be made in the early part of the season." By draining a better article can be made at the latter end of the season, and I now reverse the order of making sugar and molasses, and make the latter in the first, and the former in the last of the season. There appears to be a certain amount of saccharine matter in the sap which will not crystalize, and when boiled down with the sugar in the old way forms into a wax or candy, and makes the sugar hard and lumpy; when drained, this matter passes out, leaving the pure sugar crystals.

In all my operations in sugar making, from first to last, I regard cleanliness as indispensable to good results. No vessel used should be permitted to contain a particle of dirt or foreign matter, if it is possible to prevent it—all means should be used to keep them perfectly clean and pure.

At the end of the season I put my buckets in my cellar, where they keep in perfect order till again wanted. Before putting them away I scald them and scrub them inside, making them thoroughly clean; they are then ready for immediate use the next season.

Clermont Co., O. W. C. PINKHAM

HOW TO DESTROY WEEDS.

Messrs. Tucker & Son—In perusing volume one, number one, 1844, of your Cultivator, new series, I noticed an article in it which I think too valuable to be lost or forgotten. Doubtless there are many who have not the Cultivator as far back as I have mentioned, and this may be of some service to them. It told how to destroy thistles by use of salt. Having many Bull or Michigan thistles in the corners and along the fence of my farm, I tried the remedy, which effected an immediate cure. Seeing it destroyed thistles so well, I tried it on yellow dock, mullen, wild carrot, ox-eye daisy, &c., &c., which had the same effect as on thistles. Early in the spring, as soon as the weeds had made their appearance nicely, I took a dish of salt and went round the farm and gave all a dose. I put about a spoonful or more on each plant, and put it as nearly as possible in the centre of each plant.

The next day I went around to see what the result was, and found them all the same as though hot water had been turned on them. Let salt remain as dear as at the present time, I think it an easy, cheap, and sure way to destroy any kind of weeds. You need not be afraid the salt will not do the work, for I never knew it to fail on one plant. E. C. K. *Cape Vincent, May 13th.*

KEEPING VERBENAS OVER WINTER.

My "better half" has no difficulty in keeping the Verbena in the house through the winter; with her the question has been how to keep Verbenas in the open border. After many experiments she has succeeded the past winter, by placing over the plant a frame made for protecting cucumber hills, having in it a 10 by 12 glass. The Verbena remained in fine condition, fresh and green, all winter, was uncovered early in April, then growing vigorously, and on the 10th of May was in full bloom. Those kept in the house are potted in the fall early enough to root well before freezing weather comes on; they are then placed in the east windows of our sitting room, where we have wood fires, and never allow the frost to enter. The plants are kept clean and moist; tobacco smoke (which I can supply whenever called upon,) applied when necessary, and thus the plants are kept healthy and vigorous through the entire winter. This spring they commenced blooming the last of March, were in full bloom by the middle of April, and now are in the garden as bright and beautiful as one can desire.

If one will but pay attention to the plants, it is easy to see whether they are suffering from dust, want of moisture or insects, when the proper remedy can be applied and the plants kept in a healthy state.

Southern Ohio, May 13. BUCKEYE.

KEEPING FARM ACCOUNTS.

Although there has been not a little written in Agricultural papers about keeping farm accounts, still I have never appreciated the importance of it so fully as I have of late.

I am right glad that the Legislature of our State has passed an act requiring the collection of agricultural and horticultural statistics. It will be of untold benefit to our country pecuniarily; and I am able to conceive no other enterprize, that, if it is continued as it should be, will tend to *elevate* the character of our farmers as much as the effectual carrying out of the design of the legislature in this respect.

The design is a noble and grand one. We who profess to approve of it do not half appreciate its importance and the good effects that will most certainly attend it. Notwithstanding our first effort will be, like all other experiments very imperfect, and the tangible results, by way of statistics, very incomplete, still the way will be prepared for results that could never have been attained by any private enterprize.

But very few farmers keep accounts of the productions of their farms, and if they are interrogated with reference to the debt and credit, and productiveness of their fields, they are not able to give any more correct answers than they could give were they asked what relation their children may be to the prince of Denmark.

Occasionally we meet with a farmer who keeps a correct account of everything, and he will answer any question that you may ask him about his farming operations by referring to his books or diary.

In my rambling through the county I have met with several farmers who not only keep statistics of their farming operations, but who keep a diary by which they can tell exactly what themselves and workmen were engaged in during every day of the year.

When I was on the farm of Mr. Thomas Gould of Aurora, in this county, he showed me his diary, by which he could tell just what every man was engaged in, not only during whole days, but parts of days. And Mr. Gould assured me that this practice had saved him, during one year, over $60—a very handsome remuneration for a few leisure moments each day, and for a little paper and ink.

A few days ago I was at the residence of Messrs. Thornton, extensive farmers, situated on the outskirts of this city, who gave me statistics *from their books* of their large farm, and even the number of fruit trees was entered on their books.

Such things speak well for the *intelligence* of farmers, and if farmers would accustom themselves to keep minute accounts of everything that they have anything to do with, how much more intelligent they would appear, and how the practice would tend to elevate their vocation.

Farmers, let your sons have paper and ink to keep accounts, and aid them in doing it. One of my little sons has a book and pencil, in which he keeps a penny account of everything that is consumed in our family. A man or boy will perform just as much work, and sleep just as many hours when he keeps his accounts well as when he does not. S. Edwards Todd.

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USE OF PLASTER.

I notice in the Co. Gent. of April 16, an article on the use of plaster, by G. P. Serviss. As he desires to hear the opinion of others on the subject, and as some of my views conflict with his, I have taken the liberty of replying through the columns of your journal.

In the first place he says, "I believe it is pretty generally admitted that plaster is not in and of itself a fertilizer." Now on this point I most materially differ, as I contend that plaster is a very excellent fertilizer. Plaster, as we all know, is composed of sulphuric acid and lime, which are both very excellent manures. It is also known that plaster will resolve into these components. Now, since sulphuric acid and lime enter so largely into the composition of plants, is it not reasonable to suppose that these two elements are of use in a chemical point of view, by entering into the combinations of plants. If plaster were of use in a mechanical view only, as Mr. Serviss contends, would not all soils be equally benefitted by it? But we find some on which it produces no effect at all, and again others which have been greatly profited by it. Now, according to my idea, the reason why it does not affect all soils alike, is that some soils already contain a sufficient supply of sulphuric acid and lime for the present use of vegetation, and that therefore the application of these substances is useless, whereas these elements are deficient on those soils which are benefitted by the application of plaster. I do not mean to say that plaster has no mechanical effect, as I believe it to be useful as an absorbent of gases; but I also believe that in a short time plaster will be washed into the earth out of the reach of the atmosphere, and then will not its mechanical effect be greatly contracted? Johnston, in his Agricultural Chemistry, says that in the neighborhood of Lyons it has been found that very dilute sulphuric acid exhibits the same beneficial effect upon clover, that has elsewhere attended the use of gypsum; now would not this go to prove that the plaster was resolved into its components, and that the sulphuric acid, to say nothing of the lime, entered into the composition of the clover? Mr. S. is also of the opinion that the face of the earth yields only a certain limited quantity of produce annually, and that although the application of plaster to a certain part will increase the amount of vegetable matter on that part, it is done at the expense of the adjacent portion. We will allow for argument's sake, that there is but a limited amount of gases liberated into the atmosphere for the use of plants, and if, by the application of plaster to a certain part of the surface of the earth, the vegetation on that part consumes more than its proper share of the gases, it must follow that the whole or a portion of the remaining surface will be deficient to a corresponding extent. Now Mr. S. himself, says—"the gases arising from our barn-yards and decaying substances of many kinds, are carried by the wind over the face of the earth in every direction;" then, this being the case, why does he think that the part adjacent to the plastered part should especially suffer, since the remaining part of the gases is universally distributed? It is also stated that by the use of gypsum in Germany, the produce of clover and the consequent amount of live stock, have been increased *at least one-third.* Now although the application of plaster has proved of such an immense value to the Germans, yet we do not hear of a corresponding falling off in the adjacent countries; and finally, in regard to the experiment of the plastered and unplastered strip, does Mr. S. know that the amount of grass obtained from the unplastered strip is less than the yield would have been on the same ground if the whole field had been left unplastered? J. S.

Chester Co., Pa

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Precocious Milker.—In the spring of 1860 I purchased from a drove of "Marylanders" a two-year old heifer, which I thought had some fine points. She had a calf the latter part of the summer of 1861. Some two months before her calving, I noticed that her udder was much swollen and very painful to the touch. She was brought up and milked, yielding 11 pints. The flow increased so much that in a few days it was necessary to milk her twice a day, when the yield increased to 13 quarts per day, which she continued to give till the day she calved—full six weeks. The milk was entirely good to within a few days of her calving. The calf was a very fine one for a heifer's. She continued to do well, giving about 14 quarts per day until I sold her. Having parted with my farm and removed from the neighborhood, I have not heard from her since. S. A. *Del. Water Gap, Pa*

How Cheese is Made at the Cheese Factories.

A correspondent of the Ohio Farmer, Mr. Anson Bartlett of Geauga county, furnishes that paper with the following interesting account of the manner in which cheese is made at the factories in this state:

Cheese-making, like every other branch of manufacture, requires skill; and I claim that no persons can succeed in making a superior article of cheese, unless they devote their whole time and attention to the business—it being one of the nicest chemical, as well as a very nice mechanical process, it follows, as a matter of course, that any mistake, or any thing wrong, however small it may be, in itself, is sufficient to injure the product, and lessen its value.

The almost universal practice of dairymen is, to allow as little time as possible for making their cheese, hurrying through with it so as to be about something else; and the only question they stop to ask is: "Will it sell?" With this answered in the affirmative, they are content, caring little whether it is good, bad or indifferent. When I think how many there are in Northeastern Ohio, who will persist, year after year, in taking good wholesome milk, (for mind you, the cows don't give sour or stinking milk,) and work it up, or allowing it to work itself up, into such hard, dry, sour and stinking stuff, as they do, I feel vexed. And then to have them pretend that such garbage is fit for human beings, when a great deal of it is already half decomposed and rotten, or is so dry and hard as to be almost indigestible, is absurd.

Although I have long held the foregoing opinion of the importance of skill, care, and the necessity of taking time in the manufacture of cheese, I was never so forcibly impressed with them, as during a visit which I made among the fine dairies of New York, located in Oneida and Herkimer counties.

The first of these dairies which I visited was that belonging to Mr. John O. Frazee, two miles north of the village of Rome, Oneida county, where the milk from 400 cows was made into cheese; and where I saw that every cheese in his cheese-house was as *perfect* in *form* as when taken from the press, and still soft as butter, and every one who is posted must see at once that such cheese must be *firm*, *mild* and *rich*—the three essential points of a superior cheese.

I next visited the dairy of Mr. Jesse Williams, four miles from Rome, where the milk from four hundred and fifty cows was manufactured into cheese. Here the same perfection of form appeared as at Mr. Frazee's; and after a critical examination of six or seven hundred cheeses, weighing one hundred and fifty pounds each, I failed to detect any, *even the least*, change of form in any one of them, from what they possessed when taken from the press, and still they were *perfectly soft and buttery.*

I have at one time and another, visited over one hundred of the best dairies in Northeastern Ohio, as well as a large number in Eastern and Western New York and Western Vermont, but I never at any time, or in any place before, have seen a dairy of cheese so near what I considered perfect, as those of Mr. Williams and Frazee; but when I show how perfectly every step of the process of manufacture is reduced to a system, all wonder at the uniformity of the product will cease.

The cows are owned by different individuals, living at various distances from the dairy house; some of them are even four or five miles away; the owners draw the milk as soon as it is taken from the cows, directly to the dairy, where it is accurately measured, and an exact account kept, and the dairymen take it when it is thus delivered to them, manufacture it into cheese, keep it, and take care of it until sold. They then sell it, and after deducting the cost of salt, capping, rennet and anatto used in the manufacture, pay over to each farmer who furnishes milk, his pro rata share of the proceeds, except one cent per pound on the sale weight of the cheese, which, and the whey is the pay of the dairyman for all his labor, care, use of buildings, fixtures, &c.

Evening Work.—As soon as the milk is delivered and put into the vats at night, they add one gallon of cold water for every ten of milk, which they will have in the vat when it is all in, and immediately set cold spring water to running around the milk vat, and reduce the temperature as quickly as possible to sixty degrees, when it is left for the night with the water still running around the vat, in order to still further reduce the temperature, and keep it cool through the night, and prevent souring.

Morning Work.—In the morning the milk is put in with the last night's milk, as soon as delivered, and when all is in, the heat is raised to eighty-two degrees in warm weather, and eighty-four in cool, and sufficient rennet added to produce perfect coagulation in one hour and fifteen minutes.

The Cream.—Before heating to put in the rennet, the cream which has risen on the last night's milk is dipped off and poured back through a cloth strainer, until it has become thoroughly incorporated with the mass of the milk; and after the rennet is added, the milk is kept frequently stirred, dipping off the top and pouring through the strainer until the milk begins to thicken. This is to keep the cream from rising. When allowed to remain quiet, even for a few moments, the cream separates, and rises to the top; and if the curd begins to form with the cream floating on the top, it will work off in the whey; but if kept thoroughly mixed and incorporated with the milk until the milk thickens and the curd begins to form, it is not very difficult to keep it in the cheese, and not lose it in the whey. One great object in adding the water to the milk is to reduce the milk so as to have the cream work in the more readily.

The Curd.—When the curd is sufficiently formed to go to work at—which may be known by its breaking with a clean, smooth fracture, in passing the fingers through it—break it up carefully with some instrument, so as to leave it in lumps about 2 inches square; but this instrument should have no sharp edges so as to cut, for—take very particular notice—*no cutting edge* of any kind must be allowed in the curd at any time during the process of manufacture. This is essential and important. The curd must be divided entirely by *breaking*, and not by cutting. As good a way as any is to use the hands for breaking the curd from the first. After breaking, as above described, so that the lumps will be about the size of an egg, let it stand about ten minutes, or until the curd begins to settle, and then begin to work and break the curd with the hands. Let the motion be very slow and careful, so as not to work the cream off, or whiten the whey; meantime, raise the heat to eighty-eight degrees; when the temperature arrives at eighty-eight, cut off the heat, let the curd settle, and draw off the whey until there is barely enough left to cover the curd.

Pressing out the Whey.—Now comes the most difficult part of the process, that is, to break the curd thoroughly and finely, and at the same time preserve the green appearance of the whey. This is done by taking the curd between the hands in small quantities at a time, and bringing the hands flat and close together with a pretty strong pressure. Care must be taken, however, not to rub or mash the curd so as to start the white whey. In fact I hardly think any written description of this part of the process will be intelligible, practical instruction being almost indispensable, but the result aimed at is to expel the whey from every particle of the curd, by thus pressing it between the hands, as well as to break up the curd.

Cooking the Curd.—When you have completely broken up the curd, put on the heat; keep it stirred and broken until the temperature arrives at ninety-four, and then cut off the heat; keep the curd stirred with a lively motion fifteen minutes, and then draw off the whey again, leaving just enough to cover and float the curd. Now go over the curd again, and break it up as before, getting fine and even as possible, and then put on the heat again and heat to one hundred degrees. This is the greatest heat. Meantime stir the curd with a brisk, lively motion, cut off the heat and keep stirring twenty minutes, and then cover the vat up with a blanket, and let it stand until the curd is thoroughly cooked, which will be about an hour or little longer. When the curd is completely cooked—which may be known by taking a small lump and pressing it firmly between the thumb and finger—if well cooked, on removing the pressure, the curd will spring out into its former position; or select the softest lump you can readily find, break it open, and if it appears dry inside, and free from whey, it may be considered done.

After Cooking.—Now let off the hot water from the vat, and replace it with cold water; cool the curd and whey to eighty-eight degrees, and then dip the whole out into a draining sink, or a cloth strainer, keep it stirred so that it shall not pack together until thoroughly drained, and then add the salt and work it thoroughly.

Salting and Pressing.—Mr. Williams' rule for salting is two pounds and seven-tenths of a pound of salt to a cheese from one hundred gallons of milk—beer measure—and Mr. Frazee's rule is two and five-eighths pounds of salt to one hundred pounds of pressed cheese. Either rule will do well enough I think, although I prefer Mr. Williams' rule. When the curd is salted, it is ready to be put into the press, and its subsequent treatment is much the same as is ordinarily pursued.

Rennet.—Nothing but the skins of the rennets are used; the curd, if there should be any, being thrown away. The way to preserve them is to use salt enough to do it, and then add a little more salt; stretch on a bow end, hang up in a close, dry place. In preparing the rennet take a gallon of water at the temperature of ninety degrees, for each rennet used, put the skins into the water, and add more salt than will dissolve; let them soak two or three days, rubbing them occasionally; and then take out the skins and put them into another vessel, and add water and salt as before. Use of the first until that is gone, and by that time the other will be ready. A good rennet is sufficient to make from six to eight hundred pounds of cheese.

Anatto.—When the rennet is put into the milk, add a small quantity of anatto, just sufficient to give the cheese a bright straw color, or the color of good butter. The best way to prepare the anatto for coloring the milk, is to boil it in strong lye—white-lye is best. The quantity to be used must be determined by experience, as no very accurate rule can be given.

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An Easy and Quick Method to Swarm and Hive Bees.

Take young spruce with a thick top of limbs, the stem about as large as a man's wrist, nine or ten feet high—trim the lower limbs, leaving the thick top about 2 or 2½ half feet. Sharpen the lower end, place it about three rods in front of your bees. Make a hole with a crowbar, about a foot deep, and place in the spruce, and tread lightly around, that it may be easily taken out. For a dozen hives of bees have six or eight spruces set in a line, about twenty feet apart, three rods from the hive as above, and then place some a little farther off.

The bees will cluster partly in the limbs and partly below. As soon as they begin to light, place your table about six feet from the bees, spread the cloth on, and then the hive on one end of the table, bottom board under, and raise the hive by blocks two inches high. When the bees are all settled, raise up the spruce out of the ground very carefully, without jarring, keep it upright and carry it to the table very steadily, so that the bees shall not fall off. Then lay the swarm on the table directly in front of the hive; let it lay about five minutes, then raise the spruce a little, and shake it lightly, and lay it down; in ten minutes more shake off all the bees and lay the spruce a little distance off.

The hive should be shaded; if it is not, the bees sometimes leave the hive. I do it by boards sufficiently long for the purpose. The hive should be perfectly clean, the upper part scratched rough, so that the bees can stick the comb. The hive should be wet with cold water before being placed on the table. After being hived as above, let them stand until near dark; then remove to the place where you wish them to stand.

The advantage of using spruce is great—it is so much quicker and easier to hive them, the bees are not irritated, and there is no need of gloves or veil. Also by having these spruce handy by, they are not so likely to go off to the woods. The bees appear to have a preference for the spruce (fixed in this way.)

Last year I had ten swarms; eight of them settled on the spruce when I had plenty of fruit trees near by. The spruce is preferable to anything else. It has a bunch of limbs, short and close together at the top; and it will keep green longer than almost any other timber, which is very essential, as the bees seek a shady place to light on. It will be well to pour water twice a week in the holes where the spruce stand, to keep them green. This method is more especially necessary for those persons who have no trees near by, or where the trees are large. Many swarms are lost, and it is very difficult to hive them when this is the case.

Clinton Co., N. Y. JOHN T. ADDAMS.

Note.—When a person wishes to do anything inside of a hive of bees at any time of the year, take drained honey, thin it a little with warm water, and pour a teacupful over the comb, or a thick sirup from sugar dissolved. They will be so engaged to get the sweet that they will not be cross.

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A CHEAP FENCE.

The "Saw Buck" fence that is described in your **Annual Register** for 1860, is the cheapest good wooden fence that can be built, where rail timber is getting scarce. As I build it, it will turn sheep and swine also, with but two rails or narrow boards nailed on the posts. I would first plow up something of a ridge, and drag the ground level on which to set the fence; then nail on your boards well up from the ground, place two rails or poles on the top to keep it down, and ridge up the earth at the bottom, when you will have a fence as good, with half the cost, and more durable than a post and board fence; but it don't look as well, that's all the difference. People here have built such fences too high, and used too wide boards, consequently they blew over. Posts 4 feet 3 inches long, will make such a fence as high as is generally really required, with something of an elevation, as I before mentioned, to set it on. Henry Voorhees. *Seneca Co., N. Y.*

We copy the description of the fence above alluded to, from our Annual Register:

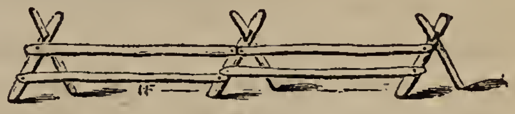

Fig. 1.

A fence, sometimes used on western prairies, where winds are violent, is represented by fig. 1. It is very cheap, but not neat in appearance. Short sticks are morticed as represented, to form a support, to which common fence rails or poles are nailed. A rider is added without nailing, as exhibited in fig. 2. It stands firmly upon the ground, and may be moved with great facility.

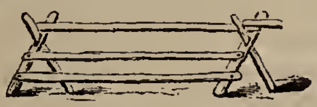

Fig. 2.

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To Prevent Rats from Eating Harness.

Mix a little tar with your oil, and they will not trouble your harness. N. B.

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TO DESTROY THE ROSE SLUG.

The rose slug, of late years has become very destructive to the garden rose. A solution of whale oil soap has proved effectual in destroying them. It is best applied with a garden syringe. The young insects are now just beginning to appear, and are chiefly on the under side of the leaves. Whale oil soap is not so easily obtained now as formerly. It was, originally, nothing, more nor less than the refuse matter thrown to the surface of spermaceti, in the process of refining, by the use of potash. A rather strong solution of common soft soap will probably answer the same purpose.

Conversation on Transplanting Trees.

N. Don't you think that trees would succeed better generally if we should put manure in the holes next to the roots? This does well in planting corn.

P. No! It is nearly the worst thing for trees that you could do. I knew a young orchard more than half destroyed in this way. The manure was fresh or unfermented, was too strong for the delicate fibres, left air cavities, and caused the soil to become very dry about the trees.

N. Does manure then always injure or kill trees? I thought a poor soil bad for them—how shall we apply it?

P. Old, well rotted, fine manure, well mixed with earth, may be used without injury; or any manure may be placed on the surface in the fall, and spaded or lightly plowed in the next spring. At some distance from the trees it may be plowed in deeply, or the soil may be made rich for a year or two before the trees are set, either in raising other crops, or the land may be cultivated as a fallow, and manure successively applied. A good way is to prepare strips of land in this way, where each row is to stand; and in subsequent years the intervening spaces may be enriched. I once succeeded finely by digging large holes—about 7 or 8 feet across, (the subsoil being porous or with natural drainage,) and then applied a large barrow load of manure to the outer part of each hole, breaking it up with a rake and mixing it well with the soil of the hole as it was gradually replaced, but leaving still a hole three feet across in the centre. Apple trees were set in these holes and common mellow earth filled in next the roots. They grew moderately the first year; but the second season the extending fibres reached the manure, now well rotted and diffused through the soil, and they grew with great vigor. The land was well cultivated for several seasons, and the seventh year some of them bore nine bushels each.

N. I have often heard it recommended to drop a few potatoes or a handful of oats into the hole when the trees is set—they say it keeps the soil loose about the roots. Last spring I tried it on a few trees, and I think it did no good—in fact these trees grew hardly so well as the others.

P. Of course they would not grow so well, and it is a pernicious practice, and about as sensible as to turn a herd of cattle into your corn-field to mellow up the ground with their feet about the hills. The growing potatoes, or oats, only abstract nourishment and moisture from the soil, and cannot fail to injure the tree. It is an old-fogy notion, long since exploded among intelligent tree-planters.

N. Would you ever stake up a tree to stiffen it, or is it unnecessary?

P. Small trees of such size as I prefer, and with roots taken up as long as they should be, never need staking; but larger trees, with roots mutilated or cut short, will require staking to prevent the wind from bending them about, especially if set in autumn.

N. What way do you prefer for staking them—how should the stake be driven in?

P. There are two or three ways; perhaps the simplest and best is to drive a stake, perpendicularly, near the centre of the hole, before the tree is put in; then set the tree and fill in the earth. The tree may be secured to the stake by a well twisted wisp of straw, crossing it between the two to prevent chafing. A band, made of cat-tail flag, also answers an excellent purpose; but a cord should not be used as it cuts and injures the bark. When the stake has not been placed before setting the tree, it should be driven into the ground at a little distance from it, so as not to endanger injury to the roots, and the tree then tied to this inclined stake. If the tree is quite large, three of these inclined stakes, meeting at the top, may be necessary. They may be set with more accuracy and firmness by making the holes with a crow-bar. Sometimes, a sufficient protection against wind may be given to autumn-set trees by banking the earth about them a foot high, to be removed again in spring.

N. You say that large trees are to be staked to stiffen them against wind—what harm if the wind does bend them a little?

P. Serious injury is done in this way by the tree's working a hole in the soil about the foot of the stem, causing displacement and drying up of the roots; and, when this is the case, no tree can ever flourish; in fact, you will generally find that such trees will die in a year or two at farthest.

N. I am told that it is very important to have the same side of the tree to the sun. Deacon B—— told me (you know he succeeds very well,) that he always makes a notch on the south side of a tree, before he digs it up, so that he may set it out in the same position. What is your opinion on this subject?

P. It can do no harm, but, commonly, it is of no consequence whatever; and I would not give the toss of a copper to know which side stood to the sun. Better direct your care and attention to something more important.

N. You say that "commonly" it is of no consequence—is it so in any case?

P. Yes—in removing trees of several years' growth it is but to observe this precaution; and when they are still older it is quite important. The bark on the south side of the trunk has become inured to the sun's rays, but not on the north side; and if this unexposed bark after remaining so long in the shade be suddenly turned to the sun it will be frequently burned and killed by the heat—especially of such tender barked trees as the pear and apricot.

N. Do you think it necessary to preserve all the fine, thread-like roots in digging up and setting out a tree? I have heard say they were of no use.

P. All the roots should be preserved, so far as practicable, and these should be placed, in setting out, just as they were before. Spread these little roots out in every direction with the fingers, while an assistant is sprinkling in the mellow earth. But, if these small roots have been dried by exposure to the air, they will be comparatively useless, and the larger ones will send out a new set of these fibres as soon as the trees commence growing,—in fact these new fibres are so quickly replaced by small or young thrifty trees that it is not absolutely essential to preserve them as many suppose.

N. I have heard a great deal said about luck in planting trees, and although I don't believe much in luck, I suppose there is always a great deal of uncertainty about a tree living.

P. There should be no uncertainty, nor will there be if the work is well done. If a single tree can be set out with such care that there would be no risk whatever, then a dozen or a hundred may be, and if a hundred, then ten thousand. I have seen large orchards where not a single tree had perished.

N. What do you consider the leading points that are essential to success, and which, if attended to, would invariably lead to it?

P. You will bear in mind that if all the roots of a tree be taken up with it and set out again just as they were before, there would not only be no risk, but no check in the growth. But this cannot be done, and the more they are mutilated and badly replaced, the more they are checked. As this mutilation and careless setting increases, so there is danger of a portion of the trees dying. Most planters prefer to lose a few trees to taking so much care, so there is a sort of compromise of the matter. They sacrifice a few trees to saving a good deal of labor, and sacrifice ten times the value of that labor in growth. It is better to do everything well, and as you request I will enumerate what I consider the leading points. First and most important, take up as many roots as possible, and preserve them from drying much. Secondly, spread these roots evenly on every side while the hole is filling, leaving no cavities whatever among them. If these two requisites are attended to, no tree will die, but if the roots have been broken, we must do the next best thing, which is to pare or cut off the bruised parts. Set the tree as before described and then prune off a corresponding portion of the top, that there may not be more leaves than the roots can feed.

N. Neighbor Jones told me that his cutting off the top did more harm than good. He had tried it, and they did not grow at all in all the summer.

P. Very likely—and I have no doubt he did the cutting after the trees were in leaf, a course that is sure to do harm, and check the progress of the tree. It must be done before the buds swell. Here is a precaution that many overlook, and charge the failure on their own procrastination.

In addition to what I have mentioned, I would recommend settling the earth about the roots by pouring in water while the hole is partly filled. Another good practice is to dip the roots in mud as soon as the tree is dug, to protect them from air and drying; and they should be planted no deeper than they stood before.

GRAPE INSECT.

Eds. Co. Gent.—Enclosed I send you a few little bugs, and also a few grape buds, upon which you will see the manner in which they prey upon the grapevine. These insects are new comers in my garden, though I presume they may be very common in other parts of the country. They have ruined my prospects for fruit upon a few otherwise very promising vines. As editors are supposed to be able and willing to answer all questions, I should be pleased to have you tell us through the Co. Gent. what they are, and how to prevent their ravages.

Albion, Wisconsin, May 4, 1863. R. R. CHILD.

The insect being enclosed in a quill, came safely and without injury. It is the grapevine Flea-beetle, or *Haltica chalybea* of entomologists. It was described many years ago in Silliman's Journal, by the late David Thomas, as the *Chrysomela vitivora*, or the grape-devouring chrysomela. It is usually a dark, brilliant steel-blue color, and about one-sixth of an inch long. It commits serious damages to the grapevine early in the season, or as the buds are swelling, by eating out the interior or tender part, thus stopping the growth. There are different ways of destroying these beetles. One is to catch them in a small gauze net, swept dexterously along the vine, taking care not to break the young buds. Another mode is to catch them in a deep tin vessel. A third is to throw whale oil soap upon them. The best remedy, of course, is that which kills them at once, but we cannot say which would be most convenient in practice.

A NEW VOLUME ON VEGETABLES.

The Field and Garden Vegetables of America; containing Full Descriptions of nearly Eleven Hundred Species and Varieties, with Directions for Propagation, Culture and Use. *By* Fearing Burr, Jr. Illustrated. Boston: Crosby & Nichols.

The primary object in this work has been "to give full descriptions of the vegetables common to the gardens of this country"—including "the characteristics which distinguish the numerous varieties; their difference in size, form, color, quality, and season of perfection; their hardiness, productiveness, and comparative value for cultivation." The system of classification adopted is clear and simple; and, after remarks upon the general characteristics of each species, the soil and fertilizers best suited for it, its propagation and culture, harvesting the crop, obtaining seed for future use, and the purpose for which the plant is grown in cookery or for the table—we have the most complete and carefully prepared description of all its chief varieties, domestic or foreign, with the peculiar merits or requirements of each at length.

The programme of the work is thus more comprehensive than any other that has before appeared in this country, or, as far as we are aware, in Great Britain. Mr. Burr, we understand, has devoted a number of years of experiment and investigation to gathering the varied information it presents; he remarks in the preface, that it has frequently been found necessary, "in order to obtain some comparatively unimportant particular with regard to the foliage, flower, fruit or seed, of some obscure or almost unknown plant, to import the seed or root; to plant, to till, to watch, and wait an entire season."

So wide a field of inquiry could not well be embraced in very narrow compass, and Mr. Burr's volume is a handsome octavo of 674 pages, printed in a manner which does no less credit to the publisher, than to the increasing public interest in horticultural literature. The illustrations are numerous, new, and very well drawn and executed. The advertised price is $4.

Directions for a Simple Straw Hive.

Messrs. Editors—I am pleased that your readers have such a number and variety of useful and amusing thoughts presented to them in your paper. Allow me to say how I make a plain bee hive, and thus endeavor to contribute to the value of your numbers. I have kept bees forty years, and find it desirable to use straw hives They are warmer in winter, yet cooler in summer. When put in cellar for winter, the comb will be much less liable to mold, as the straw absorbs the moisture. In the summer heats they will not melt down, for the air contained in the straw is a non-conductor of heat. They are made square, of the size of Langstroth's. Every appliance of frames, honey boards, and glass boxes with covers, are the same as described in Quinby's book.

For the Mode.—The frame that holds the straw is more simple than that of an out-house, as there are about it no mortices or tenons. There are four corner posts and two middle posts for the sides. No middle posts are needed for the ends. Corner posts eleven inches long, four inches wide, one and three-quarters inch thick. The corner posts are so placed that the ends of the plates may join, two on the end of each post. Then the plates are nailed to the ends of the posts. The sills are dealt with in the same manner. The ceiling on the inside of posts is made with laths, three on each side and end. The straw is cut just as long as the posts, and pressed against the inside lath by opposing lath outside; three on each side and end.

I have used these hives two years. I am pleased to find they afford no more worms than others—nor as many; for the bees are more vigorous, and defend themselves more efficiently. They are light and clean, and will not warp. No patent desired. H. Parsons. *Delaware Co., N. Y.*

GRASSES AND MEADOW LANDS.

The excellent Survey of the Agriculture of Seneca Co., by the late Mr. Delafield, published several years since in the Transactions of the N. Y. State Agricultural Society, contains a number of pages devoted to the subject at our head. In the increased attention now turning toward grass lands, and dairy stock as well as sheep, there is no part of the farm of greater interest and importance than its meadows and pastures, and we shall copy at length a considerable portion of the report referred to, which is now within the reach probably of only a very small part of our readers:

In a county where grain is the chief product, a small portion of the soil is reserved for pasture or hay. Heretofore about one-eighth of the county appears to have been used for these purposes, and produced an average yield of one ton and a half to the acre. At this time about one-third of the arable land is in grass for pasture and hay.

In Great Britain and Ireland the proportion of meadow lands is nearly two-thirds of their whole surface. In Germany the proportion is said to be one-fourth. In France it is one-seventh, while in Spain, Italy, and other nations, only one-tenth of the soil is in pasture and meadow.

The practice in this county is similar to the practice of England in the treatment of grass lands, where the improved systems of rotation are maintained. The fields are pastured, then broken up for grain, and in course laid down in grass, which yielding in succession hay, seed and pastures, are again carried through the same system of rotation. Grass lands on low margins of the lakes or on moist levels, are retained for a longer period as pasture ground; the proportion is however, limited, as the banks of the lakes rise abruptly from the waters, presenting a soil not well suited to permanent pastures.

The cultivated grasses are red clover and timothy, (fig. 1;) occasionally the red top is mixed with the above, and (though rarely) orchard grass. Red clover is sown in the spring upon the winter wheat, at the rate of twelve to fourteen lbs. of seed to each acre; as this plant is biennial, enduring for two seasons only, it is customary to sow the seed of timothy grass at the same time with the clover seed, in the proportion of twelve of clover to six pounds of timothy seed. The timothy will then follow the clover, producing the richest and best hay for horses.

In regard to sowing clover seed, many scatter it on the late snows and others on the frosted ground, believing that it is thus easily admitted into the soil, and covered by the heaving and falling of the crust of earth. It may well be doubted whether this system is correct, for it is unnatural, and if the sown seed should vegetate by reason of a few warm days, and then be covered with frost and ice, as is often the case, the young plant must suffer and perish. The application of gypsum or plaster to clover is universal. No prudent farmer omits to dress his clover lots with plaster at the rate of one bushel per acre. This is done at a cost of about twelve cents per acre for plaster, which can be readily had from the quarries at Seneca Falls, or from the plaster beds of Cayuga. The analysis of the ash of the clover plant shows a large amount of lime and sulphuric acid among its elements, and this explains the very striking benefits derived from plaster or gypsum.* It is probable that clover fields would derive a yet greater advantage, if they were *harrowed* before the plaster was applied, and before the clover shoots forth strongly.

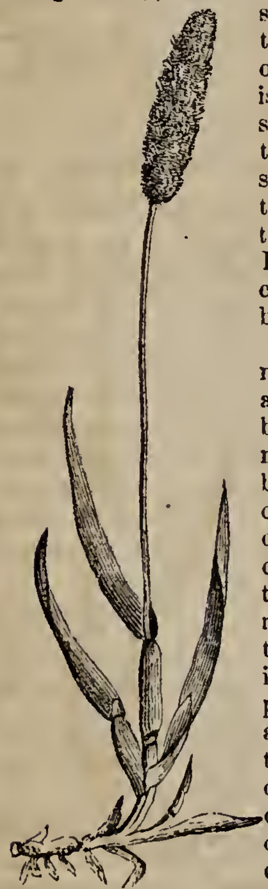

Fig. 1—Timothy.—(Phleum pratense.)

Farmers differ in practice as to sowing timothy seed when unmixed with clover. If sown in the spring it is liable to perish during the heat and drouth of summer, and if sown in autumn, it will perish with the frosts and snows. The most natural season to deposit this seed with success, is in the month of August, and if then sown with rye, both crops generally succeed. When sown in the spring with oats or barley, it *may* succeed, but often fails, and the same results from autumnal sowing. The August sowing is the most successful and best practice. As timothy grass does not produce an aftermath, it is usual to sow with it either red top or orchard grass, to give a second cutting, or to thicken the bottom for heavier crops of hay, or closer pasture for cattle.

An analysis of the ash of timothy has recently been made, by which it appears that nearly thirty-one per cent. of the ash is of potash; hence it is evident that the use of ashes, leached or unleached, are necessary and important to promote the healthy growth and maturity of timothy, and it cannot be doubted that a judicious annual distribution of lime, plaster and ashes would increase the hay crops of this county in a large ratio.

The clover plant is here generally ready for the scythe early in July, and a second crop is taken for seed in the autumn. Some, however, feed the second year's early growth of clover from May to the middle of June, and then let it run to flower, cutting it in season for seed. In this way much vegetable matter falls from trampled plants, assisting to enrich the soil.

Timothy grass is not generally matured for cutting until the end of July, a period most important to the farmer for securing his grain. Consequently this grass is from necessity allowed to stand on the field until the seed is perfected and ripe, having taken from the stem and leaf those properties most essential for the nourishment of animals. With a view to securing the timothy crop in its best condition, it needs to be cut and cured ten days or more *before the ripening of the seed.*

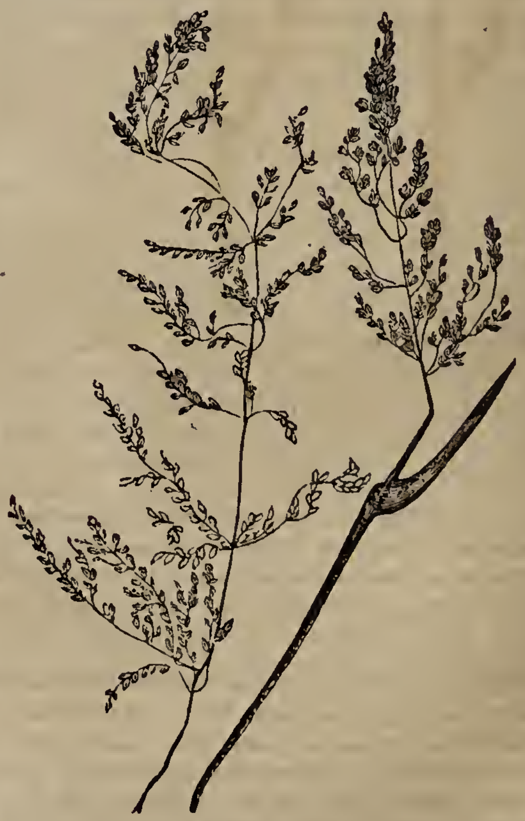

Fig. 2.—Red top or Herds grass, or common bents.—(Agrostis vulgaris.)

It would be an improvement to the hay and pasture grounds of this county, if red top grass (fig. 2,) were more generally cultivated. Red top is a valuable and acceptable fodder for cattle, and another important characteristic is, that it is a less exhausting crop than timothy, as it contains only four or five per cent. of potash, while timothy contains over thirty per cent.

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* Plaster is a combination of lime, sulphuric acid and water.

† This grass derived its name from Mr. Timothy Hanson, who first cultivated it as a hay grass most successfully in Maryland.

It is now evident that an increasing desire to improve the stock of Seneca, will demand more attention to the production of nutritive grasses for pasture and hay. The period has arrived when a characteristic distinction must be made between meadows or mowing grounds, and pasture land. While grain crops yield a full remunerating profit, it will be important to ascertain the relative values of the various grasses, in order that the most productive and nutritive may alone occupy the soil, and thus avoid a diminished appropriation of acres to the growth of grain, yet meeting the increased demand for hay and pasture.

With this intent, meadows or mowing lands should be stocked with timothy,† fescue, meadow foxtail and meadow grass. The biennial rye grass will be a valuable addition if introduced into the county. One or two unsuccessful attempts have delayed this object, yet it is very desirable to naturalize this nutritive grass in this region. Successive efforts ought to be encouraged, and there is no good reason to doubt full success. Timothy grass has been already named as cultivated. The fescue grasses, (figs. 3, 4 and 5,) have not received the same attention. This grass is very acceptable and grateful to every kind of stock, and they consume it with a keen relish. Sheep and horses will occasionally show a preference for the meadow foxtail, and for young timothy.

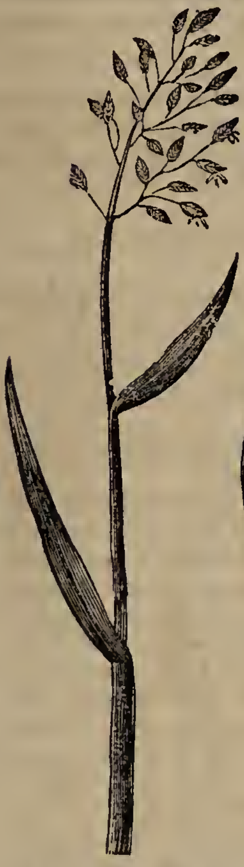


Fig. 3.—Fertile fescue. (Festuca pratensis.)

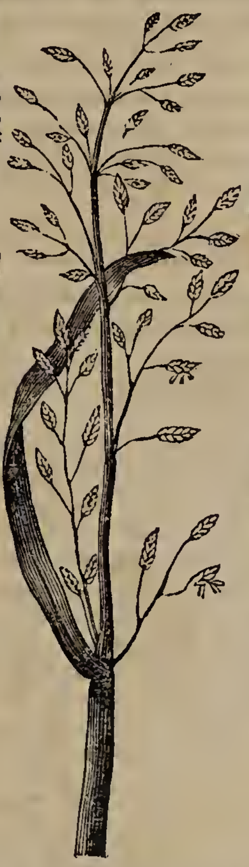


Fig. 4.—Infertile fescue. (Festuca elatior.)

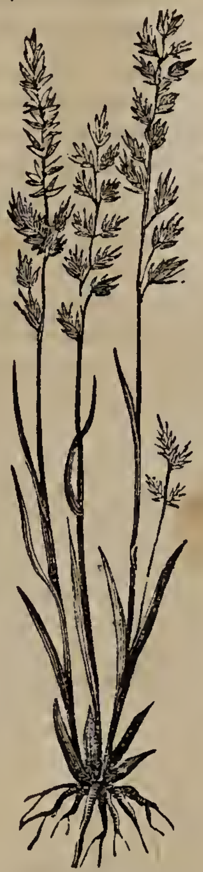


Fig. 5.—Slender fescue grass.

The meadow grasses (or spear grasses) shoot forth early in the spring, offering an agreeable repast to every animal. A field stocked with these grasses exclusively, will afford the best and most nutritive hay.

Pasture fields require a different herbage, and should be treated according to the early or late pasturage best adapted to the wants of the proprietor. The following grasses seem to be most appropriate to *early* pasture grounds, viz., foxtail, (fig. 6,) and the vernal grass, (fig. 7.) The first has been already named as an excellent grass for meadows, and the latter is well known as common in most pastures, giving a rich fragrance to meadow hay. This grass is not much relished by stock, yet as an early green food, is eaten by them with advantage.

The annual meadow grass (figs. 8, 9, and 10,) is the most common of all grasses. It will be found in the fields perpetually flowering, affording a sweet and acceptable herbage for all stock. These grasses when cultivated carefully, yield an early and large amount of pasturage. They ought to be sown in September, and then will not fail to produce good pasturage during the following season. If sown at an earlier date the seed will be liable to perish during the continued hot and usually dry weather at the season of harvest.

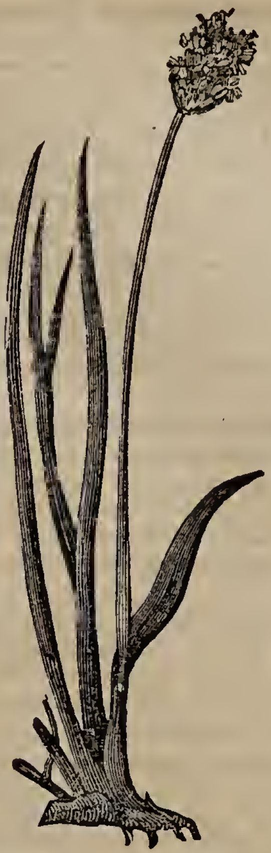


Fig. 6.—Meadow Foxtail Grass. (Alopecurus pratensis.)

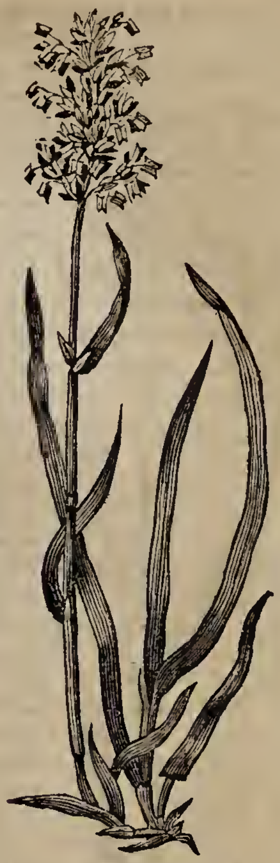


Fig. 7.—Sweet scented vernal. (Anthoxanthum odoratum.)

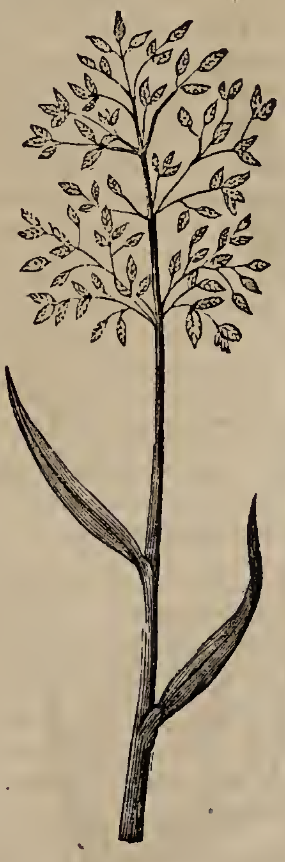


Fig. 8.—Spire grass. (Poa pratensis.)

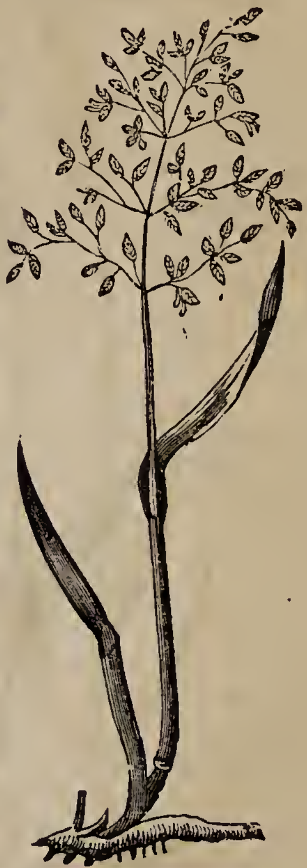


Fig. 9.—Rough meadow grass. (Poa trivialis.)

Among the *later* pasture grasses may be named timothy and fiorin, (fig. 11,) which is a common grass in England. It does not, however, succeed well on dry soils, though on the rich soils of this county it will prove valuable.

Farmers are aware that in every pasture field there is naturally a mixture of grasses which produce more or less according to the season. Yet a larger yield and better grass may always be produced by cultivating the above named grass seeds in due proportions. A careful attention to meadow and pasture grounds will ever be largely remunerated by the quantity and quality of spring, summer, autumn and winter food for all kinds of stock. This system of cultivating hay and pasture grounds for permanent use has been partially practiced in this county, with results encouraging and claiming greater efforts and continued application.

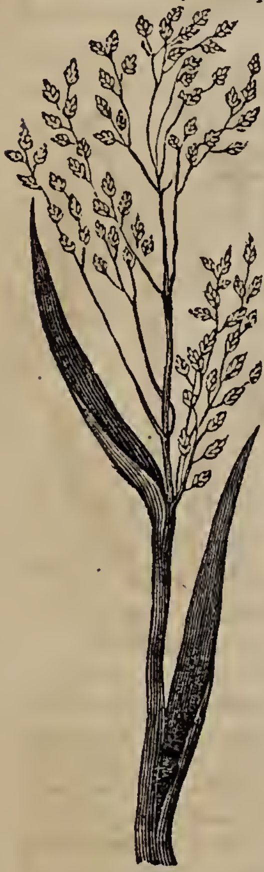


Fig. 10.—Tooth-flowered meadow grass.

A difference of opinion prevails among the farmers as to the proper period for applying manures to grass fields. Convenience has induced some to spread their manures immediately after harvest, others in September, and again others in October. The rule should be to avoid the frosts, snow and ice, for an exposure to these influences must carry off much that that is valuable, by washing over the hardened surface without penetrating the soil. The most favorable time for distributing manure on grass fields, is when the rains of approaching autumn may wash the fertilizing matters into the soil among the roots of the grass plants, giving them food for a vigorous and early shoot in the spring.

The absence of care and attention to hay and pasture grounds is observable on too many farms. The proprietors of such farms are probably intent upon the cultivation of grain only, or may not be aware that where stock are fed upon pastures or meadows, a constant and rapid deterioration is in progress. The phosphates are carried off in the bones and bodies and milk of the animals, the manure dropped upon the field affording but a very small proportion of the amount of essential ingredients taken away, and the fields soon exhibit an exhausted condition.

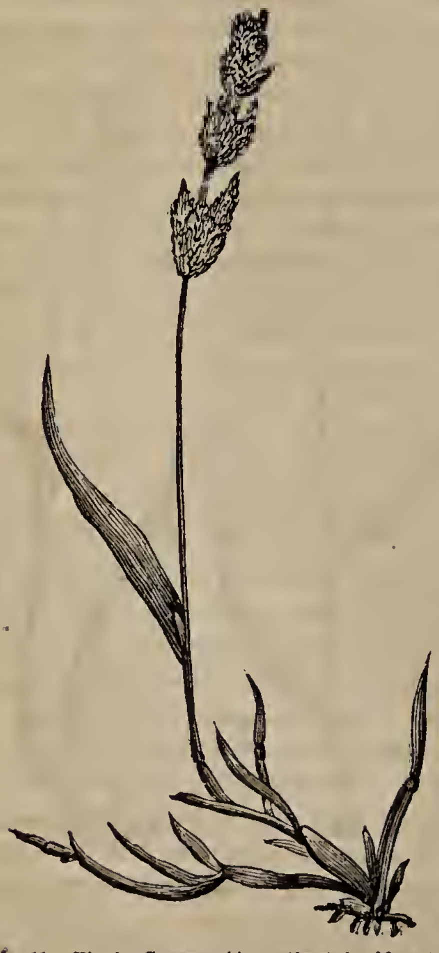


Fig. 11.—Florin Grass.—(Agrostis stolonifera.)

This wasteful practice finds no alleviation by feeding the cattle with enriching food on the pasture ground, from other sources than the products of the farm, for all animals are fed in the yard or pens when intended for the shambles. The improving condition of the cattle, the introduction of full blooded Durhams and Devons, will at an early day correct the evils above alluded to.

PROSPECT OF WOOL PRICES.

The question is very often asked, what will be the price of wool this year? Cannot the wool-growers hold their wool so as to get from eighty cents to one dollar per pound?

I have some thoughts on the subject which you may publish if you think they are worth the room they occupy in your interesting journal. It should be borne in mind that this country does not produce but little if any more than one-half enough wool to furnish the woolen goods it consumes. Suppose the average price of wool, like our domestic fleece, is say 35 cents per pound in Europe, what will it cost the manufacturer in New-York and Boston? I believe duty on wool is 30 per cent., then the account stands thus:

Cost of wool in Europe,	.35
Duty,	.10½
Gold price	.45½
Premium on gold	.22¾
Freights, commission, &c., say,	.08
Price with gold at 150,	.76¼
Gold at par, deduct premium,	.22¾
	.53½

Then why will not our wool average seventy-six cents? That is the question I will try to answer.

Usually the great bulk of the wool is bought from the wool-grower before the 1st of October, by two classes of persons—the manufacturers, who are able to buy their whole year's supply, and the wool-broker or speculator, who holds the wool to sell to manufacturers in such quantities as they wish, a large part of which is not used until after January of each year. Suppose the speculator goes into the market and buys the clip at 75 to 85 cents per pound, and this cursed rebellion is squelched by October next, and gold drops, foreign wool rushes in at about 53 cts., I ask where will their money be? Echo answers, *where?* I have no doubt those gentlemen know enough to take care of themselves; believing this, I am of the opinion the wool-grower will have the privilege of taking the chances this time for the last half of the year's supply, if he insists on extreme figures for his clip. It should also be borne in mind that a large part of the wool raised, especially in the West, is raised by persons who keep only from 20 to 60 sheep, persons who have no conveniences for taking proper care of their fleeces after they are shorn, the most of which is sold before the 1st of August, at whatever price is offered. Wool is not their principal product, but relied on to get money to help in their haying and harvesting. Therefore, I am of the opinion no large stocks will be sought for at much above an average of 50 cents per pound this summer; that the small lots will supply the demand for the present; that if we can be sure gold will be worth 150 cents next winter, we had better hold our wool. I say we, for I too am a farmer, but have only 125 sheep, and I am going to wash them too. Some think one-third discount too much for unwashed wool, yet I have always found I could sell washed wool more readily than unwashed with a discount of one-third, which I cannot account for if the manufacturer makes so much at buying unwashed, as some suppose. I hardly think all the conventions that can be raised can make dirt and dung-balls worth *nearly* as much as wool to the manufacturer. Out West.

The Most Proper Time to Castrate Animals.*

"'Tis never too hot to geld a bull;
And never too cold to cut a boar."—ANON.

I quote this relic of the antediluvians, for aught I know, in order to expose the impropriety of the sentiment contained in it. I have known instances where farmers were actuated by this idea, and have castrated boars in cold weather. But I have never known a farmer to do it but once, because their castrated animals came as near dying as they could, and live. Castrating in very hot weather is not objectionable, providing the animal is kept quiet until he is nearly well. But the most *proper* time to castrate animals, is in warm, pleasant weather. It is not safe to do it in cold weather. It is always attended with danger if done in autumn, especially in the latter part of autumn. Animals should never be castrated during *stormy* weather, unless they are kept in a dry and comfortable place, because they are almost always sure to take cold, and the wound become inflamed. In May and June, in this country, is about as good a time as any other during the year. And for young animals it is decidedly the best time. Let it be performed on some warm, pleasant morning, when there is a fair prospect of fair weather; and if the nights are a little chilly, have the castrated animals confined in a warm shed during the nights, until they are healed.

I know itinerant would-be veterinarians will tell the tyro, when they come along to do such jobs, that there is is no danger—no risk—even if it storms like vengeance. They will warrant them for one dollar. They "use in castrating, the *actual cautery* or the *potential cautery*, or *sticks* tied across the spermatic cord, which have been saturated in some elixer of life, or something else far superior to anything else that has ever been used before for such purposes, so that it is not possible for an animal to take cold!" So they pocket their dollar and abscond; and what is their warrant worth when a valuable animal becomes so inflamed and sore that his life is despaired of? But thousands of young farmers have lost valuable animals in this way, because *they dare not trust themselves* to perform such a job. Let the tyro be hoodwinked no longer. No animal should be castrated when he is not in perfect health. And when they are recovering from illness, and are very thin in flesh, or very much debilitated, castration should be deferred until they have gained more strength.

No animal should be castrated during the period of actual sexual service; because, during that period, there is a greater flow of blood at that part of the body, and there would be far more danger of inflammation were the operation performed at that time. In two or three weeks after sexual service has ceased, castration may be performed with impunity.

If any danger is apprehended from flies at the time of castration, a little warm tar—common tar, or gas tar—applied with a swab around the wounds, will repel them very effectually.

Castration may be performed in winter if the animals be housed until the wounds are healed. In January, 1860, I was on a visit at Danbury, Conn., where I was introduced to a Mr. Whittlesey, who had a yoke of bulls, and he was going several miles to get a man to come and castrate them. They were expecting to cast them in order to do it. I suggested to him, that if he would yoke them and tie their heads, I would show him how the Yankees perform that operation while the animal is standing. As they kicked like an antelope, we placed a heavy scantling on two benches behind them, about as high as the gambrel joints, and let them kick that a few times, when they stood more quiet.

The weather was cold at the time, but he kept them in a comfortable stable for most of the time, until they were whole, and I was afterwards informed that the animals endured the operation very well. Proper *care* of them—protection from the cold—was the all-important consideration in that instance.

Why Inflammation Ensues.

It is no uncommon occurrence to see one animal, where several have been castrated at the same time, become very stiff and much inflamed, and perhaps will die, even when the operation was performed exactly alike in each one.

There are several good reasons for this. Sometimes the animal is not in a perfectly healthy condition, or as it is more commonly expressed, "the blood is out of order." At such a time any wound will be slow to heal. To illustrate: A person cuts a finger when he is well and healthy, and it will heal in a short time; but let the same finger be cut at another time—when the spirits are low and health not very good, and "blood out of order,"—and inflammation will sometimes be alarming.

The most common cause of inflammation of animals at such times, is exposure to cold and dampness. Let an animal be exposed to a cold and wet storm, or let him lie down for a few hours on the cold ground, and the wounded parts will be affected *first*, and inflammation will ensue. And there is sometimes more danger five or six days *afterwards*, that an animal will take cold in its wounds, than there is on the day the operation has been performed. Care of animals—keeping them in comfortable quarters—at such times until the wounds are healed, is of far more importance than all the nostrums of veterinary quackery, either to *prevent* or to obviate the injurious effects of inflammation. S. EDWARDS TODD. *Auburn, N. Y.*

ABORTION IN COWS.

MESSRS. EDITORS—In your issue of the 21st of May there is an article on the abortion of cows. Some three years since this trouble made its appearance on a farm in this vicinity, on which there was a herd of about fifty cows. Early in the winter one of the cows missed, and as they came in too late in the spring, they about all missed, say some 17 or 20, a part being fall cows. I advised the farmer to separate as much as possible, which was done, but without any good effect.

Since that time I have read all I could find on the subject, and made inquiries of various persons.

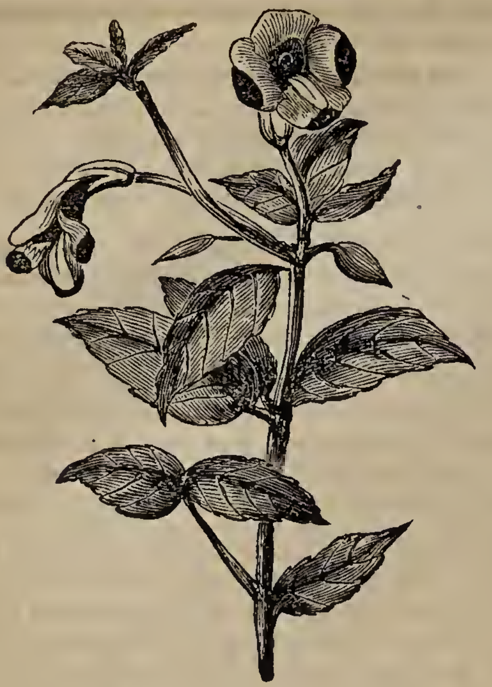
A cow may miss from various accidents, and after she has missed she is very soon in heat. If the bull is allowed to go to her, he will be very apt to get diseased, and if so, to communicate the disease to the rest of the herd. I have had but little experience, but from what I have had I think I should not allow a cow that had missed from any cause to run till some time had elapsed, till she had time to overcome the injury.

This may not always be correct, but from all I can learn it is a safe one to adopt. * *Salem, May* 28, 1863.

HAWTHORN HEDGES.

EDS. CO. GENT.—I wish to learn all I can in relation to the raising of the wild hawthorn for hedge—how to manage the seed—to separate it from the flesh—how to germinate the seed, mode of culture, and planting out. If you or some of your numerous correspondents would answer the above through your columns, I would be much obliged. JOS. E. SCHNEBLY. *El Paso, May* 11, 1863.

The seeds of the hawthorn are to be rubbed and washed from the pulp, and then treated in the same way that nurserymen manage cherry stones, that is mixed with moist sand, and exposed to freezing and thawing. Will our correspondent, W. M. Beauchamp of Skaneateles, please give us brief directions for the management of the seed, such as his experience may suggest?



TORENIA ASIATICA.

This fine little branchy sub-shrubby plant is now pretty generally known and admired. Its delicate porcelain blue lilac colored flowers, in the greatest abundance render it a peculiarly lovely plant for a warm green-house, a situation it most delights in, although it will do in a somewhat shaded but warm spot in the open air in summer. In a stove it flowers pretty freely all winter, where its choice colors render it a great acquisition. It was raised at the New Botanic Gardens in 1846, from seeds received from Courtallam, and is found extensively distributed in the East Indies.

As soon as the hot-bed is commenced in the spring, cuttings, which strike readily, should be inserted, and potted off as soon as rooted, the joints pinched off for a time, and repotted into larger sized pots as required.

The plants may be trained in a variety of ways to give a contrast; such as a few of the leading shoots tied to sticks equally over the surface of the pot, after which the branches should be allowed their freedom, when they will hang gracefully dangling all over, and nearly cover pot and all.

Various trellises to suit the taste, on which the branches can be readily tied, is another way.

Another, and perhaps the most graceful, is to suspend baskets or flower pots, by means of wire, to the rafters of the green-house, from which the plants will throw out their branches all around, and look exceedingly beautiful.

It will grow in almost any light, rich soil, and requires to be pretty plentifully supplied with water, especially in summer. E. S.

POLL EVIL.

Having had a horse suffering with this disease for near two years, and after trying many remedies without success—his head in such a state that I think it would discharge a pint at a time, I and finally made a perfect cure of it in this way: I got a half gallon of alcohol, and put in it as much corrosive sublimate as it would dissolve. Then take some blue vitrol, and put a piece about the size of a pea in the orifice, twice a day, for two or three days. If the case is a bad one, then wash with the alcohol mixture; a very little will answer, and if you find the hair coming off, on blistering, apply the wash less frequently. If you will attend to it as I direct, you will make a perfect cure.

The whole expense with me was forty-eight cents. I applied the wash twice a day for, say six weeks, and the cure is perfect. This was two years ago, and the horse is still well. N. B. *Burlington Co., N. J.*

REMEDY FOR FOUL IN THE FOOT.

Editors of Co. Gent.:—Having noticed several remedies for the foul in the foot, I will give my experience. Sometime in Nov. last, a two year old steer that I had commenced feeding, began to be lame in one hind foot. A man in my employ said it was the foul, and the sooner it was attended to the better; that it would continue to grow worse until doctored. It being the first case under my observation, I allowed him to "boss the job"—procured what he called spirits of salt—placed the steer in the stanchion, and with a rope around the leg, pulled it well back, wound the rope around a timber in the building, and while I held fast, he with a sharp pointed stick cleaned the sore as well as he could and applied the medicine. For a short time it smoked as if all was on fire, but the steer manifested little or no pain except while cleaning the part with the stick. We allowed him to go in the dirt and mud as before. One thorough application was sufficient. Geo. Chafee.

Boone Co., Ill., March 27th, 1863.

BLACK LEG OR QUARTER EVIL.

Eds. Co. Gent.—I observe an inquiry of Mr. Hoover of Kansas, as to sick calves. The disease he describes is the one known as *quarter evil*, *black leg*, *black quarter*, *joint murrain*, *blood striking*. In its commencement it is a general inflammatory fever, taking on as it progresses, specific characters, which give rise to the above names. It rarely attacks animals more than two years old, and is mainly confined to calves of six or eight months and yearlings. A common preventive in England for it, is a seton inserted in the dew-lap in front of the brisket, and this is regarded as an effectual protection, and I think justly. When the disease first shows itself, prompt bleeding and purgation are the remedies prescribed by veterinary surgeons; but in later stages, and as the case progresses, a varied treatment is resorted to.

A detailed description of the disease and all its symptoms, with the proper treatment, occupies seven large and closely printed pages in Youatt's great work on Cattle, and not a word seems needlessly said. Of course a full account of it, and its treatment, in the columns of the Co. Gentleman would occupy too much space.

Every breeder of cattle can afford to pay for intelligence to protect his own interest, and should have a good veterinary treatise on cattle. No author in this department stands so high as Youatt. The book may be had of the editors of the Country Gentleman, at the publisher's price, $1.25, and 25 cents added for postage if sent by mail.

Long a breeder of cattle, I have learned that every breeder must become his own veterinary surgeon; and with *common sense*, he who will give attention to the subject, and make himself familiar with the diseases occurring in his locality, can with the aid of Youatt's book, treat all those diseases far better than the miserable "*cow doctors*" to whom cattle owners ordinarily resort. A farmer should *read*, and be familiar with all that relates to his calling and interest. Books and papers are everywhere offered him to give the requisite information. The ordinary cow doctors read nothing and know nothing. They slaughter by their horrid treatment, more of the animals put under their charge, than would die of disease if untreated. Let farmers then study the diseases of cattle, and become competent to cure them. A. S.

Genesee Co., N. Y.

The Proper Time to Cut Grass---Hay-Making.

As the grass crop stands first in point of value among the crops of the American farmer, it is important to inquire at what period grass should be cut, and to practice such modes of curing the hay as will insure the greatest amount of nutritive matter.

Although farmers differ in their opinions and practice in regard to the proper time of cutting grass, yet scientific investigations would seem to leave but little doubt upon the subject. The nutritive properties of grasses consist chiefly in albumen, gum, starch and sugar. The question then is, at what period do they possess these in the greatest perfection? A correct knowledge of vegetable growth and development would fix this at the period of maturity of the stem, or just after the time of blossoming, and this is confirmed by chemical analysis. The object of nature is, the maturity of the seed for the production of its kind. When the stem has attained its growth it abounds in the properties essential to the maturity of the seed, and if the seed are allowed to ripen, the stem is deprived of a large proportion of these nutritive properties, leaving little less than woody fibre. Those whose business it is to save medical plants, always cut them about the period of full bloom, as it is known that then they contain the largest quantity, and in the greatest perfection, all their essential peculiar qualities; and in order to retain these qualities in their greatest perfection, *they are cured in the shade.*

In the Northern and Eastern States, where the grasses grow in the greatest perfection, the meadows are frequently composed of mixed grasses, embracing several varieties. In England it is the custom frequently to grow a still greater variety together. Where this is practiced the different varieties do not all blossom together, and of course some will be over-ripe, while others have not reached maturity.

In the South-Western States, where the climate is less adapted to the grasses in general, timothy is the principal grass grown for hay, and this, along the rivers, constitutes a very important article for export. The prevailing custom there is to let the timothy stand until the seeds are nearly ripe before cutting. The farmers there argue that at that period it is more nutritious than when cut earlier; they profess to base their practice upon experience, contending that the stock not only relish the hay better, but that they actually thrive and fatten faster upon it. It is not probable that these opinions are based upon any well conducted experiments, and will ultimately give way to more thoroughly established scientific principles. It is possible, however, that the seeming advantages that these farmers claim for grass when cut so nearly ripe, may result from the seed. It is well known that timothy seed is the heaviest of all the grass seeds proper, and that in regard to its nutritive qualities it is equal to any of the cereals. But admitting this to be true, the straw which has thus been allowed to ripen its seed can hardly be regarded as hay of any more value than so much wheat straw. Yet, we have the opinion of one distinguished individual of England, Mr. Sinclair, in favor of late cutting. He says, "that in point of nutritive matter the ripe crop greatly exceeds the crop at the time of flowering," but he does not give the reasons for this conclusion. We think it may readily be traced to the large quantity of seed produced by this grass. There is one point of view in which it may be considered important that timothy should be allowed to stand until it arrives at a period nearer maturity than is essential for other grasses. The roots of timothy differ from all other cultivated grasses, being less fibrous and more of the bulbous character. It is in these bulbs that the vitality of the plant is contained during winter, and they can not arrive at a perfect state of maturity, which is important for the health and perpetuity of the meadow, if the grass is cut while in blossom; which objection does not apply to the grasses in general.

While it may be advisable, for the reasons above stated, to let timothy stand before cutting, until some time after the period of flowering, it can hardly be doubted that the grasses generally arrive at full perfection for hay about the time of full flowering, that they then possess the greatest percentage of soluble materials, viz.: starch, sugar, gum, &c., while the mere stem or woody fibre principally serves as a medium of conveying these substances to the digestive apparatus of the animal, and for the purpose of distension and healthy digestion. For this reason we would urge the importance of cutting grasses generally at the time prescribed, as their seeds are of little value of themselves as food, while the aftermath will be materially increased by early cutting.

Curing Hay.—In order to secure the nutritious properties of grass in the greatest degree of perfection, it should be exposed to the sun as little as possible, consistent with its perfect preservation. Of course every farmer understands the importance of exposing his grass as little as possible to dampness, whether of rain or dews, but undue exposure to the sun should also be avoided. With a dry atmosphere hay may generally be got in the second day after cutting, and it is often secured in the greatest perfection the same day it is cut. It is the external moisture on hay that renders it most liable to injury.

Clover.—At this late date, it hardly seems necessary to urge the importance of curing clover hay chiefly in the cock, for this has been so often repeated that it would hardly be supposed that any farmer could be found practicing any other method, and yet we often see clover exposed a whole day to the sun in swath. While undue exposure to the sun greatly impairs the quality of hay from the grasses proper, that which is made from clover is not only injured in an equal degree in quality, but suffers material loss in quantity, as its leaves and blossoms are of that tender character, and which constitute the most valuable part of the hay, crumble and fall off. Clover should be exposed to the sun only so long as is necessary to expel all external moisture, when it will generally be sufficiently wilted to put into cock. As a general rule, that which is cut in the morning may be put up the same day. The cocks should be small, and usually in about three or four days the hay will be in a fit state to get in. On the last day the cocks should be turned over that the dampness at the bottom may escape. As the hay is put away its quality will be improved by the application of two or three quarts of salt to each ton of hay. The salt also checks the liability to heat and become mouldy. Owing to the time required to cure clover hay properly, it is more liable to injury from the weather than that made from the grasses, yet when clover hay is well made and put up in good order, no hay is relished better by stock, or is more nutritious.

Owing to the very succulent nature of clover, it is better to defer its cutting until about one half of the heads have passed out of blossom.

Saving Manure and Stanchions for Cows.

Editors Co. Gent.:—The subject of saving manure is one of the greatest importance to farmers, and for the last ten years I have tried to profit by the experience of others and still do, not only by hints thrown out, but by actual investigation. I have made it a point to visit every new barn, and all places where I have travelled, where outward appearances indicated that all was right within, and in many cases I have found that which was highly commendable and safe for all to follow, so far as would suit our convenience and means.

In visiting so many barns, I had two objects in view——one to study convenience in a barn I was about to build for myself—the other, to learn the best way to save or make manure. I built my barn in 1861, and for convenience on my ground, it cannot be beaten. I have been on to the mow, pitched off hay, fed and put up 12 head of cattle in just six minutes by the watch. I tie my oxen with a rope, and stanchion the cows. I have seen so many stanchions that were such miserable uncomfortable things, that I was prejudiced against them, but for the sake of saving manure and keeping the cows clean for milking, I had some stanchions put up on scientific principles, for trial, and after using them two years, I would not part with them for any thing else that I have ever seen, and the cattle appear to enjoy them as much as I do. There is a floor for them to stand upon, and a drop or gutter behind them that catches and holds all, both solid and liquid.

I see that some of your correspondents are in doubt about the liquid manure being worth as much as the solid; methinks I can convince them to the contrary, if they will visit my cow stables any morning before they are cleaned out. If there is no absorbent put in the bottom of the gutter, the solid manure will hardly thicken it enough so that it can be got out with a shovel, but by putting as much muck, clover chaff, saw-dust, or any other good absorbent, in the bottom of the drop as the cattle make of solid substance, and mixing the whole up together, just double the quantity can be made which would be made were the liquid not saved. Dry muck is the best absorbent; clover chaff is next. I have a mill and use large quantities of saw dust around my barn-yard and sheds, but do not like to use much in the stable manure that I use for corn, for the acid that is contained in oak and chestnut saw-dust will destroy the corn-making qualities of stable manure. I have tried it to my satisfaction. I do not know that any other kind of wood saw-dust will do it. What I mix with manure I use for top dressing.

It is truly astonishing to see how many ways man will devise to waste the liquid from their cattle. Some will make drops or gutters that are not water tight, and they cannot see the value of liquid manure. Others will make them too far behind the cattle, and have no floor for the cattle to lie on, but fill up with dirt, and what liquid falls short is drank up by the hungry earth, thus losing one great object of the drop, beside keeping the cows besmeared with manure the whole time, and *they* cannot see so much value in liquid manure; beside, they are ready to condemn the whole principle. Others will make the floor as open as possible in order to get rid of so much wet, and no absorbent under the floor but the thirsty earth; and here let me say that I have milked six cows night and morning myself most of the time the past winter, and their bags have been as clean as when lying in pasture in summer.

If your correspondent that uses muck under the stable floors, and who inquires if that is the best way, will let his floor and cattle down to the ground, and use the muck for an absorbent as I have described, he will doubtless realize a much larger pile of better manure than he does now, for the liquid from his cattle doubtless follows in the same channels the winter through, and much of it runs through to the ground and is lost; and if not, the muck manure would be much better mixed with the stable manure and all thrown out together, for perhaps much of it may not be wet at all under the stables; but in either case, if he has a mine of muck it is a mine of wealth. One of my neighbors throws the manure from his horse stable into the drop. This is a good operation in the absence of other absorbents; it makes the horse manure much better. I throw mine under my oxen as they have no drop and the horse stable is nearest them.

Bethlehem, Conn. L. F. SCOTT.

MEASURING HAY.

Messrs. Editors—Is there any definite rule for measuring hay? I think not. I have been told that 600 cubic feet on a scaffold, or 500 feet in a bay, would weigh a ton. Having occasion to buy a small quantity of hay, I was advised by my neighbors to have it measured according to the above rule, as by so doing I would get more hay, and save the expense of weighing. But I concluded I had rather pay for what I had than run the risk of paying for what I did not have. I therefore had it weighed with the following results:

The scaffold contained No. 1 hay, for which I paid $10 a ton at the barn. The dimensions were 30 feet long, 9 feet wide, and 7 feet high, and contained 1,890 cubic feet. The hay weighed 2 7-10 tons, consequently taking 700 cubic feet for a ton.

The hay in the bay was No. 2, for which I paid $8 a ton. The dimensions were 20 feet long, 18 feet wide, and 8 feet deep, and contained 2,880 cubic feet, taking 570 cubic feet for a ton. It was weighed on one of Fairbank's hay scales, and of course correctly. Hay No. 1 grew around the buildings and in the orchard, and was not as heavy as the same bulk on other situations where it had the benefit of the sun.

No. 2 was not cut early enough by three weeks, consequently was not so heavy as it would have been if it had been cut in season, and the season with me is when it is in the blow.

I saw a rule in the Independent Democrat, that 10 cubic yards would weigh a ton. I think there must be some mistake in it—at any rate I would advise buyers to draw their hay some distance to the scales rather than buy by any such rule. S. C. Pattee. *Warner, N. H.*

THE TIME TO CUT TIMBER.

A correspondent in the Scientific American of March 14th, gives the result of twenty years of observation and actual experience, that timber cut in the months of August, September, and October, or after the sap in the tree is used up in the growth, until freezing weather again comes, will in no instance produce the powder post-worm; that the wood is harder, heavier—as proved by actual experiment—more elastic, durable, and is less liable to crack than if cut in the winter months. He says that February is the worst time to cut most, if not all, kinds of hardwood timber. Birch, ash, and most all kinds of hardwood will invariably powder-post, if cut any time after the tree is frozen, or before it is thoroughly leaved out in the spring. Chestnut timber for building will last longer provided the bark be taken off. Hemlock and pine ought to be cut before being hard frozen. He is fully persuaded that nine cords of wood cut in the above-named months, will go further than ten cords cut in the winter months; that the wood will burn clearer, the coals will be more solid, and will retain their heat double the length of time.

To the above I would add, that an old Patent Office Report which I lately examined, recommends the cutting of timber in the fall of the year. I give the above in answer to your correspondent D. G. W. in Country Gentleman, page 205. J. H. P. *Franklin, N. Y.*

ITALIAN BEES.

Messrs. Editors—Having had more than three years' experience with these bees, I send you some important facts respecting them, which have fallen under my own observation, and which I believe have not yet been given to the public.

1. The queens are not only more prolific (as previous writers have remarked,) than those of the common kind, but are much more disposed to keep their brood *compactly* in the combs. An Italian Colony will often have in two or three combs, as large a surface of brood as the black queens will ordinarily have in four or five. This habit of *squaring* out their work, is more particularly noticeable in the early part of the season, and its importance will be readily appreciated by every skillful bee-keeper.

2. *The Italian bees, when forage is abundant, are far less disposed to rob than the black bees.*

As this fact is not only highly important, but directly contrary to the common opinion, the evidence of it will be given somewhat in detail.

Having purchased, last summer, a number of stocks of black bees in movable comb-hives, I examined them when the fruit trees were in blossom, in order to learn the condition of each colony. After a few hours spent in this work, the bees would follow in great numbers whenever they saw me approach a hive to open it. I was very much surprised to notice that nearly all the robbers were black bees. I cannot be mistaken as to this fact, as both myself and my son spent some hours, for several days, in examining those hives. Some drone-combs having honey in them, were exposed to the bees, so that when emptied they might be used for breeding Italian drones, and these combs were soon covered with black bees, very few Italians alighting upon them, although I had a large number of strong Italian colonies. This year, having only a few black bees, and more than eighty Italian colonies on my own premises, nearly all the bees that attempt to rob hives when they are opened, or to alight upon combs containing honey are of the black kind.

I have pointed out these facts to many who have visited my apiary, and the general opinion is, that when forage is abundant, Italian bees are so eager to gather honey from the blossoms, that they have very little inclination to secure it from other sources. It would be difficult to over-estimate the importance of this peculiarity in an apiary where movable-comb hives are used, and where artificial swarming, and other manipulations which require the hives to be opened, are practiced.

It is true that when forage is scarce, the Italian bees are as much disposed to rob as the black, if not more so; but the assertion that they cannot be kept near stocks of black bees, without robbing them of their stores, is erroneous Mr. Quimby, who has had excellent opportunities for testing this point, has said enough to convince any unprejudiced bee-keeper that they may be safely kept in close proximity to common bees, and my own experience perfectly agrees with his.

3. *The Italian bees will work upon the second crop of red clover.*

Three years ago I had 12 swarms of black bees early in June, to three of which I gave, when hiving them, Italian queens. The hives were tolerably well filled with combs by the black bees, but before the young Italians began to gather stores, the honey harvest was nearly over. In August the state of my health prevented me from making any observations, but a member of my family noticed that while the three colonies with Italian queens were working vigorously, the other nine were doing very little. In September I found that the Italians had their winter's supply, while the best of the others had only a few pounds of honey, the season proving one of the worst that I ever knew. The black colonies were broken up, and the bees added to other stocks, while the Italians wintered in good condition. I am now satisfied that the Italians obtained their August stores from the second crop of the red clover. Last August I noticed the Italians working vigorously on the red clover, and saw very few black bees upon it. Mr. C. W. Taylor of Hulmeville, Bucks Co., Pa., who has been so successful in rearing these bees, wrote me last summer, that his bees were filling boxes and frames with honey gathered from red clover, while the black bees in his vicinity were doing nothing. Other persons have written to me to the same effect.

In regions where buckwheat is not much cultivated, and where fall forage is scarce, this peculiarity of the Italian bees will in some seasons make the difference between a handsome profit and a severe loss in bee-keeping.

While it is true that some foreign writers have asserted that these bees will work upon the red clover, I have not met with any statement that they scarcely notice the *first* crop, but confine their operations almost wholly to the *second* crop, or seed clover, which blossoms when the white clover has passed out of bloom, or yields little, if any honey.

I will state, as a matter of interest to bee-keepers, that the three Italian colonies before mentioned produced me the second season 350 pounds of honey, and one large swarm.

Oxford, Butler Co., O. May 29, 1863. L. L. LANGSTROTH

SOAP.

If "A Subscriber's Wife" will use the following receipt for hard soap, I venture to affirm she will not only be "satisfied with the result," but anxious to commend it to all her sister housekeepers. It is superior to common bar soap for the hands, as well as for all kinds of clothes:

Five pounds unslacked lime slacked in 12 quarts boiling water, 5 lbs. washing soda dissolved in 12 quarts water; mix together; let it stand from 24 to 48 hours—drain off all water free from lime. Take the water drained off, 2 oz. of rosin, 3½ lbs. of cleansed grease; boil one hour, or until it thickens. Pour into some convenient receptacle, and when cold, cut in bars and dry. A Subscriber's Daughter. *Maple Row.*

HOW TO MAKE CIDER VINEGAR.

A correspondent wishes to know the most expeditious way of making vinegar out of cider. Probably as good a course as he can adopt is to keep the cider in a pretty warm temperature—as near summer heat as practicable—and allow the air to have access to it. The usual practice is to leave the bung of the cask out, and place a bottle, neck downward, over the bung-hole. The use of the bottle is to turn the rays of light on the liquor, which promotes decomposition. There are ways by which cider can be changed into vinegar more rapidly, but unless the business is to be followed on a large scale, it may not be an object to adopt the process; the cider is made to flow through troughs in a thin sheet, in order to expose it as much as possible to the air. Shavings of oak wood are sometimes placed in the troughs, to render the action of the air more direct on the liquor. By having several of these troughs, or a long length in the aggregate, cider may be converted into vinegar by once running through.—*Boston Cultivator.*

RABBITS IN NURSERIES.

Eds. Co. Gent.—I wish to inquire of you or any of your nursery correspondents, if they can give me a *complete* remedy to keep rabbits out of a nursery? Can it be done by a tight rail fence, by letting the rails come down tight on each other for three feet high? Is that high enough? I propose to put the posts, heavy ones, in 2½ feet deep, and 10 feet apart, and flatten the ends of the rails for nailing, and nail them on the *outside* of one post and *inside* of the next. How small a hole will a rabbit pass through? I had 3,000 yearling apple grafts literally eaten up *or down* last winter by the animals.

Webster Nurseries, Sciota Co., Ohio. A. L. WOOD.

Having never been troubled with rabbits, we must refer our correspondent to those who have had sufficient experience to answer his questions definitely, and who we hope will furnish the desired information. We have understood that some of our Western nurserymen who have been much annoyed by rabbits, have kept them quiet by scattering corn among their trees, at such times as they are most likely to prove destructive to them.

THE CULTIVATOR.

ALBANY, N. Y., JULY, 1863.

☞ The Commissioner of the Agricultural Department sends us a condensed table representing the condition of the Crops of the United States, derived from answers to the circulars sent out by him in the month of May.

From this table we prepare the following statement, which shows about what was the promise of the crops toward the end of last month. A fuller report of the returns is to be published hereafter, but the present will suffice to illustrate the general tenor of the replies to the Commissioner's inquiries.

Winter Wheat—*Area Sown.*—Reported *about equal* to that of 1862 in the States of New-Hampshire, Massachusetts, Connecticut, Rhode Island, Pennsylvania, Maryland, and Indiana; *one-tenth* greater than 1862 in Vermont, New-York, New-Jersey, and Michigan; *two-tenths* greater in Illinois, Missouri, and Wisconsin; *three-tenths* greater in Minnesota; *one-half* larger in Nebraska Territory, and about *three-quarters* larger in Iowa and Kansas. It is only smaller in Delaware, Ohio, and Kentucky, and a comparison of all the returns makes the general average of the area sown *one-tenth greater for the whole country* than in 1862. The *appearance of the crop* is an average in Connecticut, Iowa, Maryland, Michigan, New-York, Pennsylvania, Rhode Island, and Wisconsin; somewhat above an average in Indiana, Kansas, Kentucky, Minnesota, Missouri and New-Jersey; below an average in Delaware, Illinois, Massachusetts, New-Hampshire, Ohio, Vermont and Nebraska; and the computed prospect of yield for the whole country was not quite one-tenth below the average per acre usually obtained—in other words the increased area sown is about counterbalanced by the fact that the crop is not generally looking quite as well.

Spring Wheat—Both as to area sown and prospect of yield, is much the same as in 1862, take the country together. We are somewhat surprised to find the area sown reported as on the whole larger in the West generally than last year; and in this as well as other respects we seem to have evidence afforded that scarcity of labor has been much less seriously felt than was at one time apprehended in the Upper Mississippi Valley.

Indian Corn, moreover, appears to have been sown on a scale slightly larger than in 1862, although the effects of a backward season are perceptible in its appearance which was very slightly below an average. In Vermont, Connecticut, Iowa and Kansas the crop was looking better than usual, but in Delaware, Maryland, Pennsylvania, Massachusetts and Illinois not so well.

Rye is a full average in its appearance, and rather over an average in acreage.

Oats are slightly below an average in appearance, and a small fraction above 1862 in acreage.

Thus we have the general result that an area fully equal or somewhat larger than in 1862 was sown of all the different grains. Potatoes show a similar result as to acreage, and a full average in prospect.

The extent of of Sorghum planted shows an increase of fully *one-half* on the very large crop of 1862. This is mainly a Western crop—Pennsylvania being the only Eastern state which reports an increase of much consequence. Cotton has been put in to an extent nearly eight times as large as last year in Illiuois and slightly more in Kansas.

The Commissioner has also issued his second circular of inquiries—for the month of June. And although the responses obtained cannot in the nature of things arrive at absolute accuracy, the information derived from them can probably be depended upon, like the movements of the mercury in the barometer, as a guide to the expectations we may entertain as to the coming harvest. The May returns are taken too early in the season to indicate results as clearly as those of June will. We may suggest that the circular for July should urge the correspondents of the Department to acquaint themselves as fully as possible with the actual yield obtained at harvest in their respective neighborhoods, that they may have the best data within their reach on which to base the estimates submitted. It would be well also if the circulars issued had a blank of inquiry as to the general means of the reporter for obtaining information, or the extent of area his observations have covered; in order that in cases of conflicting returns, there may be some means of determining which are the most to be depended on. We hope to see in the fuller summary that is promised of the answers received, a statement of the number from each State or County who furnished the information requested.

☞ The thirteenth annual fair of the Vermont State Agricultural Society is to be held at Rutland on the 8th, 9th, 10th and 11th of September next. A Wool Growers' Convention will be held on the first day of the fair, before which an address will be delivered by Hon. Henry S. Randall.

☞ The New-Jersey State Fair is to be held this year, commencing Sept. 8th, on the grounds of the Passaic County Agricultural Society.

The Pennsylvania State Fair will take place at Norristown, Sept. 29, Oct. 2, with a liberal list of premiums.

The Agricultural Society of Colorado Territory will hold its First Annual Fair at Denver City, Sept. 17, 18, 1863.

The Illinois State Horticultural Society hold their next Annual Fair at the city of Rockford, Sept. 9-11.

The American Institute, New York, which has suspended its usual exhibitions for several years past, announce that a show will be held this year opening Sept. 27th, at the Academy of Music, 14th street.

The Montgomery County (Penn.) Agricultural Society will have a Spring Exhibition at Springtown, June 18th, when a trial of Mowing machines is to take place.

The Broome County Agricultural Society will hold its Second Annual Horse Fair and exhibition and trial of Mowing Machines, at Binghamton, on the 3d and 4th days of July. An advertisement will be found in another column, to which attention is directed. The regular annual fair of the same society is to be held Sept. 8–10.

☞ The Schuyler Co. Ag. Society holds its Fair at Watkins Sept. 24–26. Address by Col. B. P. Johnson.

The Cattaraugus County Fair is to take place at Olean, Sept. 22–24.

The Ulster County Fair is appointed at Kingston, Sept. 22-24.

☞ The Queens Co. Fair is to be held at Hempstead, Oct. 1 and 2. John C. Jackson, President; John Harold, Sec'y.

The Herkimer Co. Ag. Society have determined to hold their Fair Sept. 23, 24, and 25—at what place is not stated; but we presume at Little Falls.

☞ We regret to learn by a letter from our friend J. L. Darlington, Esq., of the sudden death of D. B. Hinman, of West Chester, Pa., late President of the Chester County Agricultural Society. Mr. H. was a gentleman of wealth who was devoting the leisure of his maturer years to beautifying and improving a fine farm, and who had served with energy for several terms at the head of the efficient Agricultural Society of his county. Two years ago he kindly gave up the whole of his time for nearly a week to promote the objects of our visit among the farmers of his vicinity; and we were deeply indebted to him not only for the personal exertions he so cordially made to render the visit an agreeable and useful one, but also for much of the practical information we were enabled to gather. Mr. Darlington writes, under date of the 13th :—" I am just preparing to join the managers of our Agricultural Society, in paying the last tribute of respect to our lamented President Hinman, who died on Thursday last, from an attack of apoplexy. He received the stroke about a week ago, while out in the field with some friends looking at his Alderneys, and never spoke a word afterwards. The loss of such a man is a public calamity."

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☞ Mr. H. A. Dyer, Secretary of the " Association of Breeders of Thorough-Bred Neat Stock," sends us copies of its Short-Horn and Ayrshire Herd Records. The former of these we have already noticed. The latter—devoted to Ayrshires—contains the pedigrees of 79 Bulls and 217 females—including, we should think from hasty examination, a representation from many of the most prominent Ayrshire herds in the United States and Canada. As this is the first work of the kind on either side of the Atlantic, and as all are agreed as to the usefulness of such a record, it is earnestly hoped that those whose herds are not entered in it will make their entries in the next issue, so as to render it still more complete and perfect an authority as to the numbers and purity of the well-bred Ayrshires of the country. Mr. Sanford Howard of Boston, contributes an introductory chapter, from which we may make an extract hereafter.

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☞ The "Tobacco Fair" under the auspices of the Kentucky State Agricultural Society, the premiums offered at which we noticed some time ago, took place at Louisville, May 27th, as appointed. It was more than usually successful, attracting a large attendance and full competition. The first prize of $100 on Manufacturing Leaf was awarded to Mr. J. T. Wyatt of Ballard county; and this hogshead was afterward sold for the price, unprecedented in the history of the trade, we believe, of $150 per 100 lbs., or $1,867.50, thus exceeding by $260 the price obtained for a hogshead sold in March last, which we quoted at the time as the largest sum ever commanded by one hogshead of Tobacco in the United States. The second and third best hhds. went at a dollar a pound. We have not yet seen full details of the other sales; but the Louisville Journal says that "no proof, in addition to what is furnished in this report, is required to prove that Louisville is the best tobacco market in the United States, and is surpassed by few in the world."

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☞ Joseph Harris, Esq., Editor of the Genesee Farmer, was elected President of the Monroe County Agricultural Society on the 23d ult., in place of H. G. Warner, Esq., resigned.

A Good Idea.—We learn from the Rochester Union that an effort is being made among the friends of improved agriculture in that neighborhood, to hold a great Wheat show in connection with the next Fair of the Monroe Co. Agricultural Society—offering large prizes in order to induce general competition, and opening the competition to other States and the British Provinces.

A committee has been appointed, consisting of M. F. Reynolds, Ezra M. Parsons and Joseph Harris, to solicit donations for the object. It is proposed to make the leading prize for the best 20 bushels of White Winter Wheat, $200; for the 2d best $100; these and other samples offered to be the growth of the year 1863, and of one variety, pure and unmixed. The prize to be awarded only to the actual grower of the wheat, and the wheat receiving a prize to become the property of the Society. Rochester is just the place for such an exhibition, and we trust the money may be raised to carry out the project.

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Drawing in Green Clover.—We published some time since, a letter from H. C. Stroman of Fairfax Co., Va., giving a statement of his experiment in drawing in green clover immediately after cutting, and without any drying. We question if this process could be successfully repeated, unless the clover stalks are quite coarse and nearly dry from ripeness. In allusion to this experiment, our correspondent, S. K. Grover of Kittery, Maine, writes as follows—" I have stowed hay in the barn about half made in a ground mow, but it got very hot. There was a tunnel up through the centre of the mow, made by standing up four poles and bracing them apart. A man could crawl in under, and up through the mow into the top of the barn. I applied four quarts of salt per ton. The hay came out bright. I sold a part of it. One of my neighbors remarked that it was the heaviest hay that he ever saw. It was coarse northern hay, mowed one day and hauled in the next."

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Grape Islands of Lake Erie.—The editor of the Sandusky Register has been visiting the Grape Islands of Lake Erie—a few years since, the resorts of fishermen only, but now the most successful vineyards in Ohio: Kelley's Island, the largest of all of them, has already reached a population of about 600, with some 600 acres in grapes, and a constant extension of the culture. South Bass, (Put-in-Bay,) next in size to Kelley's Island, is also next in improvement and cultivation. The past five years have completely changed the whole face of the Island. With this spring's setting, probably about 120 acres will be in grapes, of which twenty-five to thirty will be in full bearing this fall. Middle Bass, about one third as large as South Bass, containing only five hundred acres, is also being converted into vineyards at a rapid rate. North Bass, about the size of Middle Bass, was, nine years ago, a complete wilderness. It now is settled by sixteen families, and the grape fever has fairly laid siege to the island. Quite a number of vineyards have been set out—some of them in full bearing—and others are being planted this spring.

◆

Very Good Advice.—" Don't forget the fodder corn !" says an exchange; "at the latter part of the season when the drouth shall make bare the pastures, the cows will need some nice bites at morning and night. These can be supplied in no way so cheap as from the patch of fodder corn. Put in half an acre and try it."

☞ Mr. L. A. Aspinwall of Ireland's Corners, near this city, has invented and patented a Potato-Planter, a trial of which we last week witnessed. The potatoes are placed in a hopper, the bottom of which revolves horizontally, having traps at intervals near its outer edge through which one potato at a time passes, and is carried back until it drops into the furrow made by a plow attachment underneath the machine, when scrapers follow behind, covering the tuber at a proper depth. The whole operation is thus performed, as in a corn-planter, by once passing over the field. The openings in the hopper, and the speed at which its bottom is made to revolve, can be so regulated as to plant at eighteen inches, two feet, or a still greater distance apart. The distance as well as the depth of the seed are more evenly regulated than in the ordinary mode of planting by hand. By a slight modification the apertures can be adapted for potatoes of different shapes or sizes. We saw it tried with Peach Blows, as ordinarily selected for seed; they varied, as would naturally be the case where no extra care was used, very considerably in size, which however appeared to be no impediment to the regular dropping of the seed. If Mercers or varieties of similarly elongated form are planted, a greater distance is given in the drop so as to carry them through with equal certainty. There is considerable ingenuity manifested in the contrivance of this feeding apparatus. As it was found that dependance could not be placed upon the tuber's falling through a simple aperture, a short inclined plane attached by a hinge leads to the hole, along which the potato is sure to find its way; at the proper moment this rises to the level of the other sides of the hole, cutting off the pressure of the remaining potatoes upon the one that has fallen through, and a spring-roller protected from the contents of the hopper by a partition, strikes it so as to secure its dropping into the ground if inclined to stick when it ought to fall.

Mr. Aspinwall has been for some time engaged in perfecting his machine, and hopes soon to be able to have it manufactured for general sale. The one which we saw at work being the first that has been constructed for operation in the field, may be found capable of farther improvement in practice, to lessen its draught, or otherwise simplify its action; but Mr. A. is confident that he has secured the right principle for a successful and practical planter, and that the general adoption of his invention is only a question of time. A machine which shall accomplish this object will be a great boon to the agricultural community, especially in the present scarcity of labor, and Mr. Aspinwall is deserving of much credit for the efforts he has made for its attainment.

◆

☞ The care with which the English or Scotch farmer often weeds his growing wheat, has been alluded to in our columns, with the query why similar care might not here meet with its reward. A correspondent of the Country Gentleman in Oakland county, Michigan, writes us as follows under date of the 18th inst.:

"Some attention is being paid to the hoeing of wheat between the drills, with horse power, this spring. In winter and spring wheat it has proved very beneficial for the last two years; they hoe eight or ten acres per day, or as fast as it can be drilled in—the cultivator being of the same width or space of our common drills. It has proved *to advance the crop full* 25 *to* 30 *per cent.* over that which has an equal chance in every respect except the hoeing. I would advise all farmers to try a little spot with pick or a broad hoe, and watch the results. Any farther information on the subject I will give with pleasure."

This advice as to trying the experiment is good, and we hope it will be followed by our readers, and that they will favor us with the results. We should be glad to hear farther on the subject from our correspondent, the remainder of whose letter will be found under our Weather Record.

◆

Production of the West the Last Two Years.—The Cincinnati Gazette gives the following figures as showing the receipts of breadstuffs at four of the lake ports—Chicago, Milwaukee, Detroit, and Toledo—in 1862 as compared with the previous year:

	1862.	1861.
Flour, bbls.,	5,415,059	4,138,736
Wheat, bush.,	42,172,399	42,876,632
Corn, bush.,	35,826,747	31,862,423
Other grains.	7,112,507	1,976,249

Reducing flour to grain, the grand aggregate compares thus:

1862—Bushels,	112,181,848
1861— do.	98,819,504
Increase,	13,362,254

These figures give the surplus grain crops of only a portion of the West, showing an increase of about 13½ per cent. in 1862 over 1861. The number of Hogs packed during the season is stated as follows, at the principal points at which this business is transacted:

Season of 1862-3,	4,069,520
1861-2,	2,893,733
Increase,	1,175,787

Or "an increase of forty per cent. in number, being the largest crop ever produced in the country. Thus we have for our people and our armies, abundant supplies of bread and meat—two necessary elements to the prosperity of a nation and the conduct of a war."

◆

☞ A new work on Sheep Husbandry entitled "The Practical Shepherd," by Hon. H. S. Randall, LLD., author of "Sheep Husbandry in the South," etc., etc., is announced as now in preparation and to be published in a few weeks by J. B. Lippincott & Co., Philadelphia, and D. D. T. Moore, Rochester, N. Y. "The work is intended to give that full and minute practical information on all subjects connected with Sheep Husbandry which its author has derived from the direct personal experience of thirty-five years with large flocks, together with that knowledge of different modes and systems which has flowed from a very extensive correspondence during a long period with leading flock-masters in every part of the world." The "Practical Shepherd" will make a duodecimo volume of between 300 and 400 pages, illustrated with numerous engravings.

◆

A Boy's Opinion of Working Oxen.—Boys and hired men generally dislike to drive ox-teams; but for my part, I would rather work them than to work horses. I have owned several pairs; and have broke a great many pairs for my father. I break them before they are two years old, and by being mild with them, they become gentle and agreeable to work, and are always ready for sale. They will do with one-half the grain that horses will, and considering the ordinary price you pay for spring calves and colts,—viz., $16 for calves, and $50 for colts—the price you pay for harness, repairing of harness, shoeing, &c., when they are both sold at five years old, you will find that the oxen have been the most profitable.

G. E. H.

Inquiries and Answers.

[Particular attention is invited to this column, in which Inquiries on all subjects within the scope of this Journal will find a place. While we shall continue to reply to such of them as circumstances will permit, we ask our readers to furnish any facts or experience which they may possess, in answer to the queries here proposed, whether we respond to them ourselves or not.]

FOUL IN THE FOOT.—What is the proper remedy or treatment for cows suffering from the foot-rot, and what the proper treatment for cows afflicted last year with the foot-rot in order to prevent them from a return of the disorder, and to improve their general condition? H. H. [For one remedy for foul in the feet, see the communication of Mr. CHAFEE, on page 280 of this number of this paper. Dr. Dadd recommends the following:

Tincture of Matico,	2 ounces.
Pyroligneous Acid,	1 pint.
Glycerine,	4 ounces. Mix.

Saturate a small piece of sponge with a portion of the above, and introduce it between the "cleft" of the foot; the hoof and contiguous parts are then to be bathed with the preparation; and finally, in view of keeping the sponge in place, and to produce a good effect on the external parts, a narrow bandage must be applied so as to encircle the hoof. If any heat or tenderness exist, the bandage should be kept moist with cold water.]

BONE PHOSPHATE.—I wish to know of you the best possible way to make bone phosphate for the least possible cost. I have heard of some modes, though they do not satisfy me as fully correct. I have not as yet noticed anything of that nature in the past, so please do me the kindness. Let me hear from you soon, with full particulars and proportions of every article per ton. J. M. A. *Harford Co., Md.* [The information asked for is precisely what many of our readers, as well as ourselves, desire much to obtain, but which, unfortunately, we do not possess. If some intelligent cultivator who is familiar with the different modes (or who may obtain them from our past volumes) would undertake a series of accurate experiments to determine these points, and would give us the results, he would confer a lasting obligation on many farmers]

SHEEP TICKS.—My lambs are nearly covered with ticks, Will you, or some one, advise me through the columns of the Co. GENT. My old sheep have been protected from the storms, well fed, and are in good condition. JOHN SCOTT. *Newfane.* [We can recommend nothing better than to shear the sheep as soon as practicable, and wash in tobacco water—if our readers can suggest a more effectual remedy, we shall be glad to hear it. It has been said that *good keep and feeding* would keep off the ticks, but experience proves that they have no objection to *fat* mutton, and that this alone will not suffice.]

MILLET.—I wish to inquire through the Co. GENT, which is the best to sow for fodder, Millet or Hungarian grass, and what the difference is? Also what soil is best adapted to raising it, amount of seed per acre, cultivation, &c. Mc. [There are many species and varieties of millet,—such as the common English or *Panicum miliaceum*, which grows in a panicle, like oats; the Italian and German millets, which grow in spikes, &c. The Hungarian grass is one of the best of the latter class. A good barley soil will raise Hungarian grass, but for the quantity of seed and details of cultivation, we would refer to such of our readers as have had experience.]

FATAL DISEASE IN CALVES.—My object in writing to you is to get information how to treat and cure a very fatal disease among calves, which hardly ever live 24 hours after first taken. Symptoms: The animal has a languid and sleepy looking appearance; in 3 or 4 hours becomes more restless, and evidently suffering much pain. By this time the animal will manifest lameness in one, and sometimes two legs. Now the pain is intensely severe—the animal moans, froths at the mouth and dies. On examination after death I find under the skin large spongy looking spots, mingled with blood, much resembling that of a very bad bruise. The food in the manyfolds is remarkably dry and in a hard cake. We know not the cause of this disease, or a cure for it. Will some of your readers please inform us what disease this is, and the cure for it?

Osage Co., Kansas. ABSALOM HOOVER.

ROOT HOUSE.—I would be greatly obliged if I could get from some of your correspondents their views with reference to the construction of a root house—how much above and below surface of ground—how thick the walls—whether the walls would be better if hollow—how ventilated, and whether it could be so arranged as to answer also the purpose of a pit for plants? J. B. J.

THE STATE FAIR.—As the time for selecting the grounds for the next Fair of our State Agricultural Society is near, cannot the board of directors be induced to condense the exhibition, and occupy less than half the territory they usually do? How many persons have we all heard complain of the great distance from one part of the exhibition to another. How many who attend the Fairs, do not see the whole at all, and how many others who would like to see it many times over, see it but once, in consequence of the unnecessarily large territory it is spread over. At the Society's last Fair at Watertown, I heard a venerable farmer who always attended the Fairs say—"If the New-York State Agricultural Society would once hold its Fair in a place where it could not get more than twice the land it needed to hold it upon, I would go a long way to attend the exhibtion." L. E. B. W. *St. Lawrence Co.* [The officers of the State Society never mean to call for more ground than is actually requisite for the purposes of the exhibition. At Watertown they were obliged to conform to the size and bounds of enclosures already existing; the area of the County Society's grounds alone being too small, and that of the trotting ground adjoined and also included, being perhaps unnecessarily large. At Rochester, last year, the grounds, even with the bad weather, were completely packed with visitors on Thursday, and, with fairer skies, would have actually proved, we think, *too small* for the convenience of the public. At Utica, this year, the grounds will be large enough to accommodate a very large attendance, but we trust not larger than the adjoining counties can readily fill]

GRUB IN HEADS OF SHEEP.—Last winter some owners of sheep applied to you for a remedy for grub in the head. Prevention is better than cure—that is, keep the sheep well during the summer when the fly is among them. If sheep are vigorous and strong, they will resist the attack of the fly. A few years ago we had in Otsego Co. a dry summer, and our pastures were very short, and our sheep thin during fly time. In the fall feed was good, and sheep went into winter in good condition—yet a great many sheep died during the winter, one farmer lost 300 out of 800. A. W. *Delaware Co.*

CHEMICAL POINTS.—Will some one of your "chemical" readers give us information upon the following points? Are the beneficial effects of gypsum on many soils due principally to a mechanical effect—the absorption of gases and moisture, or to the fertilizing qualities of its constituents? Is gypsum decomposed in the presence of nascent ammonia? Will not sulphuric acid be found in soils abounding in the sulphuret of iron, and would not lime be better than gypsum to apply to such soils? B. R. C.

CIDER VINEGAR.—I have several barrels of cider in cellar, which I wish to make vinegar of. Will some knowing one tell me the best way? JAS. A. McC.

GESTATION.—I have been looking over some old vols of THE CULTIVATOR, and find there is quite a lack of information in regard to the gestation of animals, such as the cow, and their treatment when in that state, and also the many ways to tell if they are in that state. E. C. W. *St. Johns, N. B.*

PRUNING THE GRAPE.—In training up fruit bearing canes of the grape, it has been the practice here, derived from German vine dressers, to pluck out the laterals with the view as they allege, of strengthening the buds from which the bearing branches of the following year are to be produced. Is this practice right or wrong, or is it a rule with certain exceptions, and what are they? I would be glad to have the opinion of any of your correspondents who have turned their attention to the subject. JOSEPH HENDERSON. *Mifflin Co., Penn., May* 27, 1863. [Experienced vine-culturists differ on this point—some insisting on the importance of the removal of these young laterals while others regard it of no consequence. Our correspondent can best satisfy himself by treating alternate rows in his vines, and for a few years according to these two modes—the results will be more satisfactory than any amount of mere theory.]

TREATMENT OF COWS.—One of your questioners wishes information about the mangement of cows, and as I know all about it, I will tell him. 1. What quality and quantity of feed is preferable before calving? [Good quality and small quantity.] 2. What immediately after? [None at all.] 3. Should a cow drink her first mess of milk? [A cow should not drink her first mess, or even her fifth mess of milk.] 4. What should be given to facilitate the after-birth? [Nothing in particular.] 5. How soon should it be taken away? [In about five minutes] 6. What after-treatment? [Let the calf suck, and milk the cow, letting the milk fall into a swill pail, and from thence into the pig trough?] 7. What to prevent or cure milk fever? [Wash with cold water.] 8. What symptom would justify drawing milk before calving? [None at all.] L. W. RICE.

CULTIVATING ORCHARDS.—I usually keep my orchard under the plow. Do you think the trees would do as well if it was sown to buckwheat, letting the hens harvest it, and leaving the straw to fall down and rot on the ground? G. W. H. *Rochester, Mass.* [The answer to this question must depend somewhat upon circumstances. A young orchard on a moderately fertile soil should be kept well cultivated; grain crops and grass would much retard its growth. An old orchard, the roots of which run deep, is much less affected by any treatment of the surface. If the orchard alluded to is some years of age, the proposed management would probably answer well, and be better than most orchards receive.]

INJURY TO A HORSE'S FOOT.—I have a young and valuable mare, who about five weeks ago got her hind foot under the edge of the stall and skinned it a little. I did not think much of it at the time, but afterwards it swelled and there appeared to be a kind of soft substance growing on the bone beneath the skin. I have examined both Stewart's and Mayhew's books, but could find nothing about it, and if any of your numerous subscribers can tell me the cause or a remedy, they will oblige a YOUNG FARMER. [It is difficult to decide or prescribe in such cases without personal examination. The best treatment is probably cold water bandages in its early stages, and brandy and salt afterwards.]

RAISING HOPS FROM SEED.—I wish to inquire through your valuable columns, about the method of raising hops from the seed.—1st. Can hops be raised from the seed? 2d. If so, when is the proper time of planting? 3d. How should the seed be treated, (if any treatment is necessary) before planting, to insure their germination? 4th. Where can seed be procured, and at what price per pound? An answer to any or all of the above questions by yourself or any one of the numerous readers of your valuable journal, who are hop raisers, will confer a favor upon A SUBSCRIBER. [Will some of our correspondents please answer the above inquiry.]

INDIAN CORN FOR GREEN MANURE.—I would like to know the best method of planting corn for the purpose of turning in when grown as a green manure—the quantity required for an acre and the best crops to follow it. Land dry and warm. C. D. *Woodstock, Vt.* [The corn should be sown thickly, or which would be better, planted in drills or furrows, so that a cultivator could be passed between the rows when the corn is about a foot high. Three bushels of seed will not be too much for an acre. If any of our readers have tried turning under green corn as a fertilizer, we shall be pleased to hear from them.]

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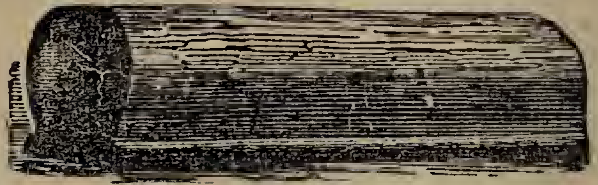

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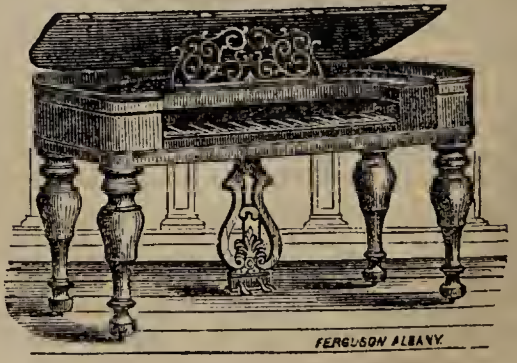

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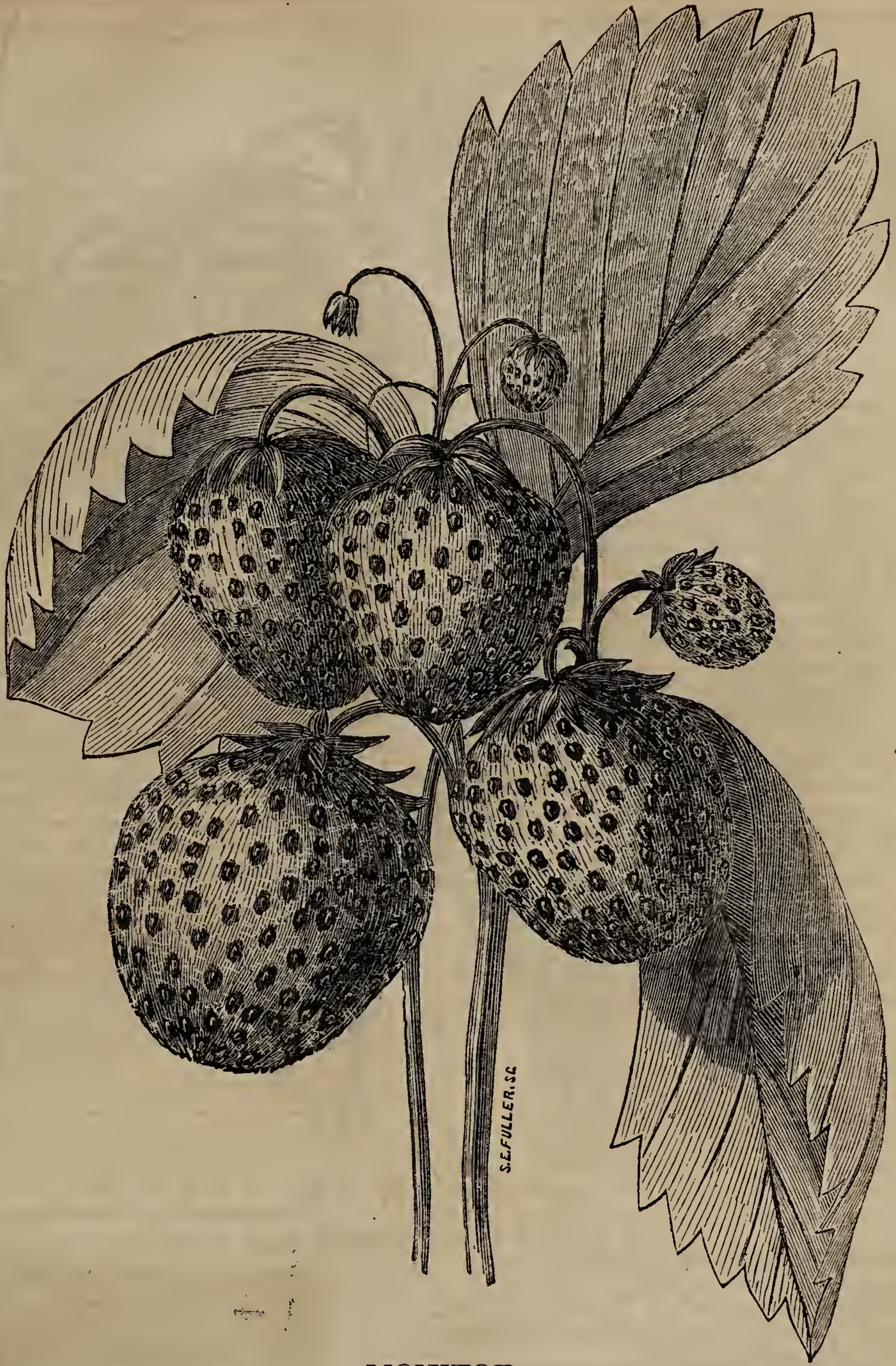


MONITOR.

THE TRIBUNE PRIZE STRAWBERRIES.

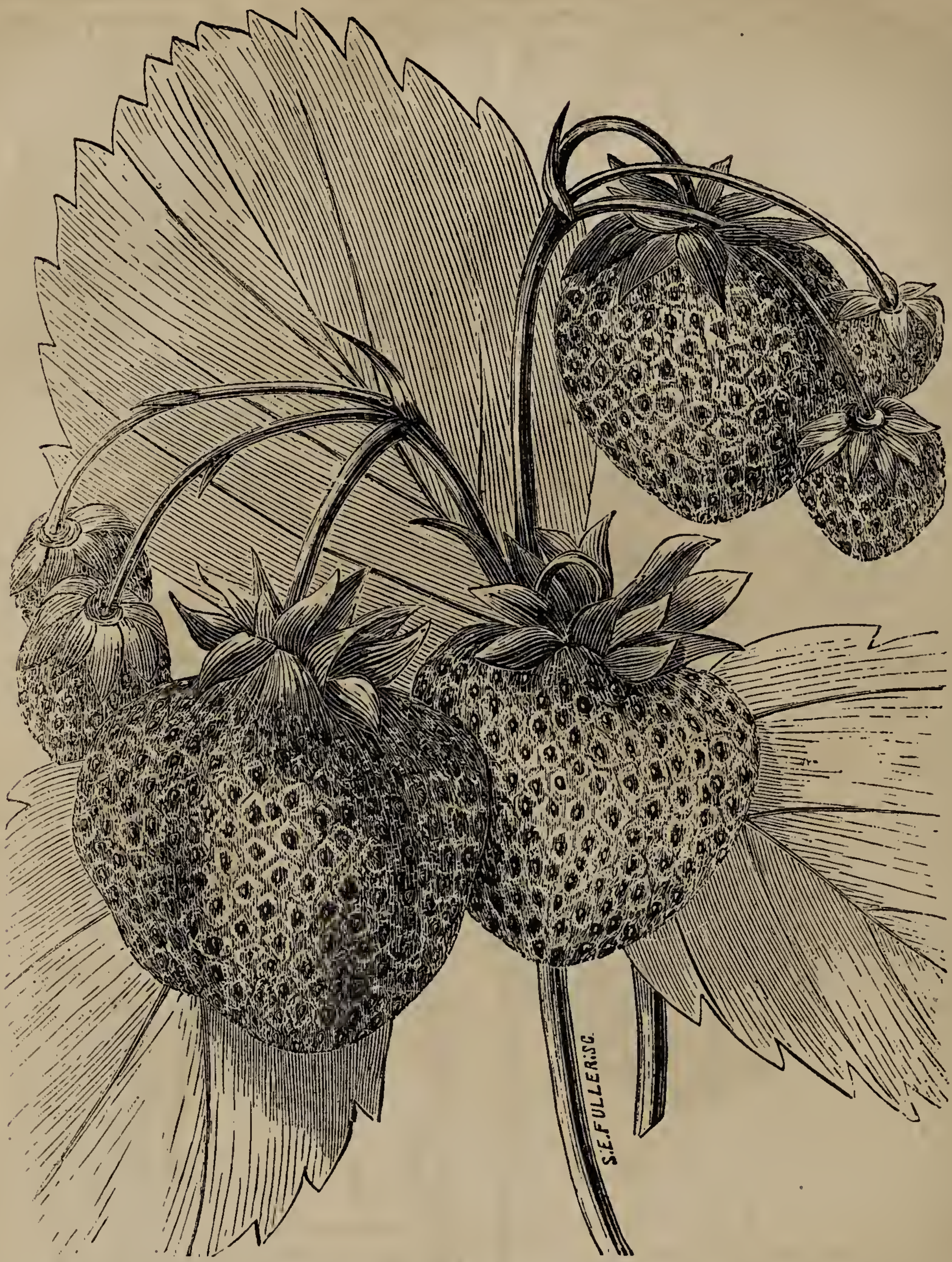
How they Originated—How they Look and Taste—Why they are Given to the Subscribers of the Tribune—When and to Whom they will be Distributed.

The cuts herewith presented represent

"THE TRIBUNE PRIZE STRAWBERRIES,"

so named because we purchased them at a very large price, to bestow EXCLUSIVELY upon the subscribers of either edition of THE TRIBUNE for 1863, intending to send one of each kind to every subscriber who expresses a wish to that effect at the time of subscribing. This will be equal to a prize of $1.50 to each subscriber, as that is the price charged by nurserymen for similar plants. Indeed, neither of these prize strawberries could be obtained at any price whatever, as we have secured every plant that can be produced in the year 1863, exclusively, as prizes to our subscribers. We have incurred the large outlay necessary for this purpose, because we have an earnest desire to see the propagation of improved fruit greatly extended, and because we believe that every one who receives the plants and grows the fruit will hold THE TRIBUNE in kindly remembrance for enabling him to enjoy such a good gift of a kind Providence, and will thereafter feel an increased desire to improve all the list of fruits. It is thus that health and happiness will be increased.

As these plants have all to be grown from the few plants that we bought of Mr. Fuller in the autumn of 1862, he will not be able to send them to subscribers until after the 1st of September, 1863, when they will be carefully packed in oiled silk or paper, and forwarded through the mail, at our expense, or by express at expense of the receiver. The three plants will be sent to each person who sends to us a year's subscription for either the Daily, Semi-Weekly, or Weekly TRIBUNE,


S.E.FULLER.SC.

COL. ELLSWORTH.

indicating at the time of subscribing that he desires the strawberries, and the distribution will be made in the order the subscribers' names and requests for Strawberries are received.

Single subscribers will receive their plants by mail, done up in oiled silk, or other suitable oiled substance.

To Clubs, plants will be sent in packages, to correspond with the number of names in the Club; and where the number will warrant it, they will be sent by express, packed in boxes.

New subscribers who desire strawberry plants should say so at the time they send their money, as we do not intend to send any to those who will not appreciate them. They are too valuable to be wasted. There are parties who would gladly contract for the exclusive right to all these plants, at 25 cents a piece, and there are many subscribers who would not, as soon as they see and taste the fruit, part with their prize for a $5 "green back."

How these New Strawberries were Produced.

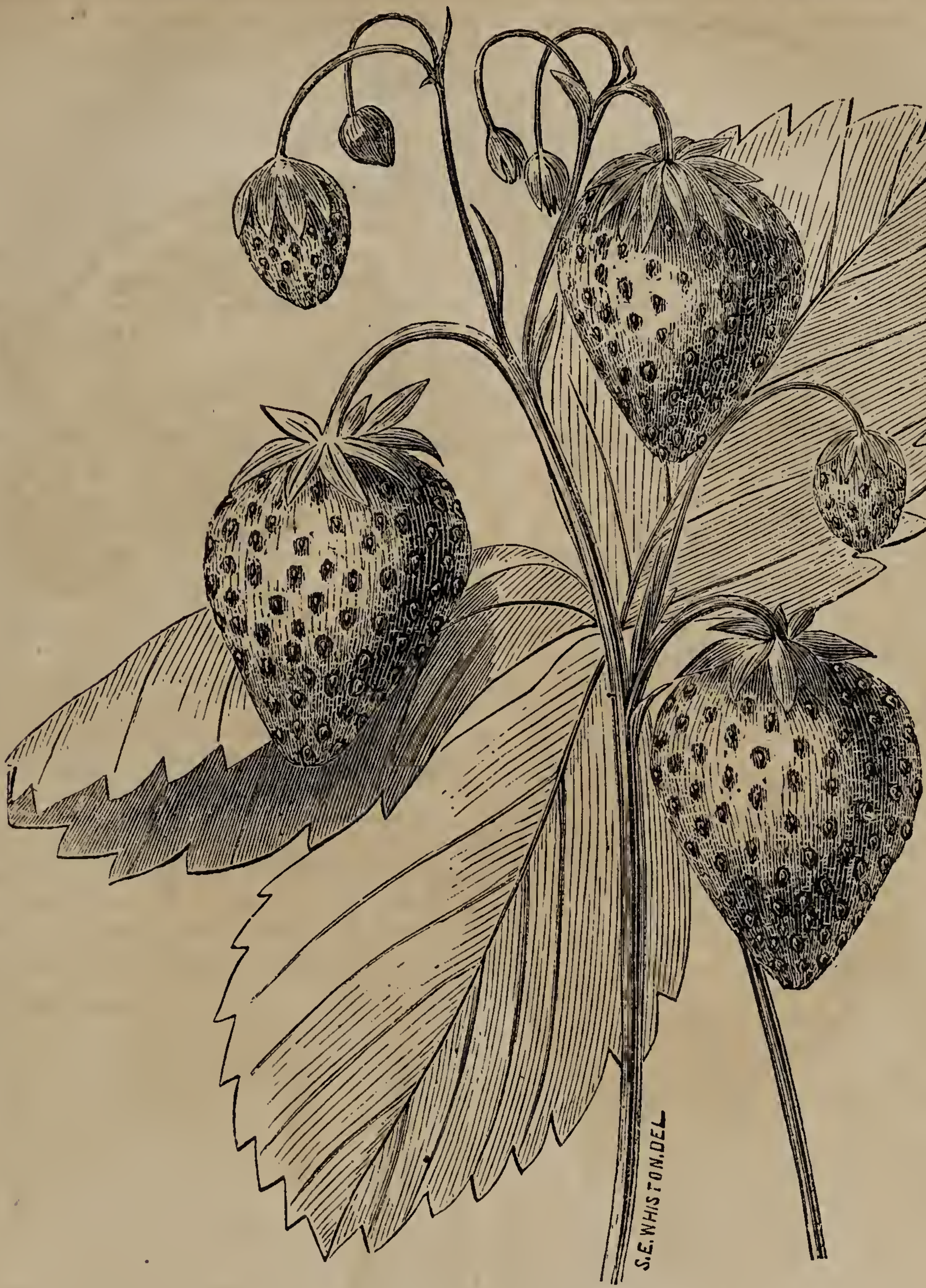
The following statement is made by Andrew S. Fuller, horticulturist, Brooklyn, the originator of these strawberries. He says:

"It is now between seven and eight years since I commenced sowing seeds of the strawberry for the purpose of producing new and improved varieties. I have always selected seeds from the largest and best that could be obtained, and the results were that I produced some few good varieties each season; yet they were not such as I was willing should go out as my seedlings. Every season I selected the seed with more care than I did the previous one, and found that I made constant improvement. I therefore determined that I would put forth extra exertions, and see if a few extra choice varieties could not be produced. In 1859 I obtained the best varieties known, and by fertilizing the flowers one with another, I expected to produce strawberries combining greater excellence than heretofore known. In this I was not disappointed. Iproduced that year many thousands of seedling plants, and the fruit of many was really excellent, so much so that I was urged not to throw the plants away; but as excellence and not variety, was my object, I destroyed all but the most promising. I determined from the first that no plant should go out as a seedling of mine unless it combined greater excellence than any other strawberry known. From the selections of that year a competent Committee from the Farmers' Club of the American Institute, who had the matter three years in charge, made a selection of three sorts, ripening early, medium, and late, and these I preserved as the final result of my seven years' laborious experiments to procure improvement in strawberries from seeds. These I intended to dispose fo in the ordinary way of a nurseryman's business, and should have done so but for the desire of THE TRIBUNE to make a gratuitous distribution of these truly excellent strawberries to its subscribers. I have therefore contracted to furnish them exclusively for that purpose. Not one of them can be bought of me at any price. If I had kept them for sale to individuals, the price would have been 50 cents each, or $5 per dozen."

Names and Descriptions of the Prize Strawberries.

"The earliest ripening one was named COL. ELLSWORTH, in honor of the martyr who lost his life when Alexandria, Va., was first occupied by the Union army during the present war. It is a very large variety, of a crimson color, conical in shape, and having slight depressions running from calyx to point, resembling the sutures on the peach, with a long neck, and the calyx parts readily from the berry; quality good; flesh firm. Although the largest of the three, it is also the earliest, ripening at the same time as the Jenny Lind and Early Scarlet, and is very productive. The original plant, 18 months from the time the seeds were sown, produced over 200 perfect berries, averaging from 1 inch to 1¾ inches in diameter.

"The next ripening is called the MONITOR. It is very large, of a


S.E. WHISTON.DEL.

BROOKLYN SCARLET.

dark bright scarlet color, approaching a crimson in the sun. Berry very solid and firm, of fine quality; plants very vigorous and productive. This sort will become a great market fruit, the color and shape being very attractive.

"The third, from its color and origin, is called the BROOKLYN SCARLET. Although this variety is inferior in size to the other two, yet it possesses merits that will always make it a great favorite. Its shape is a regular oblong cone, color the most beautiful bright scarlet. Flavor, the very best. We have the unanimous decision of the judges at the great Strawberry Show last season, at No. 41 Park-Row, New-York, on this point, as they awarded it the first premium over all its numerous competitors. The plant is a very strong and vigorous grower, making monstrous stools the first season, from which an enormous amount of fruit stalks are produced. Add to this its lateness, which assists so much in prolonging the season of this delicious fruit, and we have in this strawberry something as near perfection as possible, though not as large as the others. Yet this is not small, and among the sorts most cultivated, ranks medium to large."

The above descriptions of Mr. Fuller, in addition to all that we have already published, must be sufficient to satisfy all minds that we are offering no trifling prize to our subscribers, as an indication of our good will, and certainly with a hope of their continued good will to us.

We have only to add that the cuts are as exact represensations as to size as can be be given, and in no respect exaggerations of THE TRIBUNE PRIZE STRAWBERRIES.

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THE SEMI-WEEKLY TRIBUNE is sent to clergymen, [illegible]

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To any person who sends us a club of fifty or over THE DAILY TRIBUNE will be sent without charge.

THE WEEKLY TRIBUNE is sent to clergymen for $1.25.

At Post-Offices where full Clubs cannot be formed, either for THE SEMI-WEEKLY or WEEKLY TRIBUNE, subscribers to the two editions can unite at club prices, should the total number of subscribers come within our rule.

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TWO DAYS IN NEW-JERSEY---II.

We remarked in our preceding article that Farm Improvement in Burlington county has been owing mainly to three causes, and named one of them as being the Underdraining of the land. We now go on to specify the others:

II. Marling and Liming.

Taking the great body of the productive land of the county, the application of Marl and in some places at not too great a distance from the Delaware river, of Lime also, has probably done even more than draining to restore the lost fertility of worn out soils, and to add to the crops obtained on farms not exhausted, not only on the Upland, but, after the draining has been performed, on the Meadows also. Some of the best farms, have been limed nearly or quite throughout, but as this material has to be brought from Pennsylvania, it is too costly to be as frequently and liberally used as would probably otherwise have been the case. On some soils its effects are of the most satisfactory nature, but Mr. WATSON NEWBOLD pointed out to us a meadow of ten acres, in which he had tried the experiment of putting it on in strips, and on a part of which the grass had derived no perceptible benefit whatever from the trial. Actual experiment he thought to be the only test which can determine the expediency of its use. His upland, however, has all been limed three times during the past thirty years, to an amount aggregating about a hundred bushels of lime to the acre; and he ascribes to the introduction and increased extent of the practice of Liming, the increased growth of the Wheat crop of late years, particularly on farms like his own, not considered quite "natural" to this grain.

Marling is rendered cheap and easy by the presence of abundant marl deposits in various parts of the county. We visited Gaskell's marl beds a little more than four miles east of Mt. Holly, near the railway running from that place to Pemberton. A branch track had just been laid down to this bed, so that its contents are now rendered accessible to all parts of the State. A little stream running through the bed, had worn a passage which left the hillside containing the marl so exposed as to make its excavation easy. About 4 feet below the surface of the ground is a thin stratum of greyish marl, followed by a second of black color, and then by the "green sand marl" most in request. Still farther down the deposit assumes a chocolate hue. The depth to which it is taken out is about 25 feet, and the quantity within reach is almost limitless. Twenty-three cubic feet are rated at a ton, and this would be equivalent to nearly a ton for every square foot of surface. The price charged is 25 cents per ton, loaded on the cars. Prof. COOK of Rutgers College, in the course of his Geological Survey of the State, visited these beds, and took samples for analysis. In the report submitted by him in 1856, we find the following statement of the composition of the marl:

Analysis of Green Sand Marl from Burlington Co., N. J., by Prof. Geo. H. Cook.

Water,	10.260
Silica,	46.660
Prot-oxid of iron and alumina,	24.921
Potash,	6.819
Lime,	2.86[illegible]
Magnesia,	3.08[illegible]
Phosphoric acid,	3.59[illegible]
Sulphuric acid,	0.985
	99.194

Of these constituents it is probable that those of no particular chemical value, are mechanically beneficial in certain soils. The low lying meadow land which is so full of vegetable matter as to be quite peaty,* may not contain a very large proportion of silica; and this is supplied in the marl, which by decomposition liberates it in soluble form in large quantity. The prot-oxid of iron generates ammonia, Prof. COOK states, in the change to a peroxid which takes place under the action of air and moisture. "The peroxid of iron and alumina, together with the silica," says Prof. JOHNSON in his Report on Fertilizers to the Connecticut State Ag. Society, "are important means of increasing the power of the soil to absorb and retain manures." It is the potash and phosphoric acid, however, which form the most valuable constituents on the list. Prof. Johnson expresses the opinion, based upon analyses of marls containing considerably less of these two ingredients than are indicated above, that *they* were worth, bushel for bushel, more than leached ashes. Prof. Cook states that marl is used in New-Jersey at distances from the beds at which the cost per bushel, with a fair allowance for labor of transportation, "could not have been less than from 12 to 16 cents. Instances are known where it has been thought remunerative at 25 cents a bushel." The last named rate would be equal to about $4 per ton, and we fancy it would be very difficult to get an equal quantity of potash and phosphoric acid—say 135 lbs. of the former and 70 lbs. of the latter—in any other form without paying a larger price than this. The phosphoric acid, although not in soluble form, "is disseminated through the marl in small particles in a pulverulent state,—a form," says Prof. Cook, "much more available for growing vegetation than the hard and slow-decaying fragments of bones which have been crushed in a mill."

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* There is little, if any, actual Peat in these meadows; Mr. NEWBOLD speaks of their soil as being a "natural mud;" but it appeared to us (without a very minute examination, however,) to contain a sufficient preponderance of organic matter to entitle it to the qualifying adjective "peaty." [See Dr. Voelcker's classification of Soils, Morton's Cyclopedia, vol. ii, p. 871.] It is certainly a "vegetable mould," evidently very rich in humus. The presence of bog iron ore, referred to in the first article, was perhaps spoken of in too general terms; it is found in occasional, rather than in "numerous" instances.

Enough has been said to show the advantages enjoyed by those who are so situated as to be able to procure a fertilizer of such value almost at their own doors, and at little more than a nominal price. The quantity applied per acre differs very much with the distance from the beds; those living in their immediate neighborhood applying exceedingly heavy dressings, while those at considerable distances will put on from one to two hundred bushels. John Black, Esq, of Locust Grove, to whose experience in draining we have already referred, told us that he remembered when the use of marl commenced about sixty years ago, although it was not applied very largely until a later date. He thought its best effects were shown on land at the same time moist and sandy, but he marled all his farm. Mr. Gaskell at the marl-bed, whose farm—at least the part of it above the marl—appeared to be naturally poor, thought the grey marl nearest the surface quite as valuable as the green, and told us that on his land it had produced excellent crops.

III. Attention to Farm-Yard Manures.

As Marling and Liming extended, and land before too wet for use was Drained and rendered productive, the capacity of those farms possessing a considerable proportion of meadow land, for the pasturage of stock in summer and feeding in winter, was greatly increased. The best farmers have availed themselves of this fact to pay increased attention to the manures of the farm-yard, and by their use have still farther added to the productiveness of the uplands—improvement in this respect supplying in turn greater quantities of straw and stalks to be trodden down into manure, as well as more grain to feed and sell. Thus, under good management, everything is made to work in together toward the annual returns obtained, as well as for the permanent improvement of the farm.

A better example could not perhaps be taken than Mr. Watson Newbold's farm, on which we understood that five or six times the stock is now fed that it could carry when first purchased. As about two-thirds the 175 acres it contains are meadow land, in permanent grass, the remaining third has been brought to a very high state of cultivation; although not as good a wheat soil as some others, the standing crop appeared to afford still better promise than that of 1862, when 25 bushels per acre was yielded, and the corn crop has been of late years from fifty to sixty bushels per acre.

Farm-yard manure is generally piled in the yards in spring, although there is a difference of opinion as to whether benefit is really derived from the handling and subsequent decay, or not. So far as we inquired it seemed to us likely that where the farms were mainly upland, and thus afforded greater quantities of rough litter, the expediency of securing the more complete decomposition of the manure was recognized; while, on the other hand, in cases where the quantity of stock kept was larger in proportion to the stalks and straw to be converted into manure, it lies in yards, in spring, in a condition more nearly adapted for use.

System of Cropping and Feeding.

The meadow land has most of it never been plowed. On some farms the sod has been turned over and a crop or two put in, and re-seeded in order to level inequalities of the surface—a proceeding rendered more essential than before, since the introduction of mowing machines. On some meadows the hay crop has been annually cut and removed for a long period, and this without effecting any perceptible deterioration in the crop, as we were assured. But it is undoubtedly better to secure the return of at least a part of what is taken from them by pasturage, and this is done to as great an extent as other farm operations will admit. The long established practice of the best farmers, here as elsewhere, has been to feed their hay on their own farms; but of late years more or less has been generally sold, the land having reached a degree of fertility enabling it to be spared without sensible loss.

Steers which come from the West are bought during autumn for winter feeding, and sold after grazing to as late a period in summer as may be necessary to fit them for the butcher. Sheep are also fed in considerable numbers—ewes being generally purchased and lambs raised, and the whole sold off before new lots are taken in. Something has been done, we may remark parenthetically, in the line of improvement, by the use of Long Wool or South-Down rams in raising lambs, but not so much as one would have supposed from the facilities generally possessed for the purpose; and, as to cattle, so few are raised that there has not perhaps been very great inducement for the introduction of improved breeds. Still the value of Short Horn crosses is recognized in the selection of steers for feeding, and, as there is considerable Butter made, inquiry is beginning to show itself as to the best Dairy breeds.

Before going on to speak of the rotation employed, we may derive from the Census returns of 1860, an outline of the productions of the region under consideration. Of the townships over which our tour extended, Southampton is the one which reaches farthest into the territory of the pines and cedars, the sands and swamps. New Hanover, also, has quite an area of the same kind; but throughout the others the proportion of unimproved land is very small. Thus the census reports—

Township.	Acres Improved.	Acres Unimproved.	Total.
Chesterfield, ...	11,728	1,281	13,009
Mansfield,.	17,301	930	18,231
Springfield, ...	15,982	906	16,888
Northampton, ...	585	13	598
	45.596	3,130	48,726

These four townships have therefore but little more than 6 per cent. of unimproved land out of nearly 50,000 acres. The chief crops reported for 1859 on this area were:

Wheat, bushels, ...	55,997	Oats, bushels,.....	106,148
Rye, bushels, ...	34,618	Hay, tons, ...	14,621
Corn, bushels, ...	269,758	Butter, pounds,...........	196,993

The numbers of live stock are reported for the above four towns as follows:

Horses,........................	1,668	Milch Cows,..................	4,195
Asses and Mules,............	171	All other Cattle, ...	2,219
Swine,........................	12,412	Sheep,.........................	8,933

This does not necessarily show a preponderance of butter-making over the feeding of steers, as many of the Milch cows are kept for the purpose of fattening veal calves.

The "" sheep should, but may not, include lambs. The number of swine shows that considerable attention has been paid to pork-making,* but under the competition of the West, this branch of husbandry is not thriving so well at present.

The census statistics prove the correctness of Mr. Newbold's opinion that Wheat, as a winter grain, is gaining on rye, in the extent sown. When the country was first opened it was cropped to corn, fallow and wheat, corn, fallow and wheat, year after year, unless indeed the interposition of the fallow even may not in some cases have been omitted. Thus the best land, without care in either of the three directions above specified, was rapidly worn down; the meadows suffered similar ill-treatment by continuous hay cuttings, and the whole district has not yet recovered from the consequences of this usage. With the progress of better management, hinging mainly perhaps upon the opening of the marl beds and the use of lime, soils which were too far gone for the remunerative growth of wheat, and on which rye had consequently become the chief crop, were again sown to the former grain, and this has since been gaining from year to year, until now, as above shown, the surface under wheat is again considerably in the ascendant.

Rotation of Crops, etc.---Our Tour.

On the farm of Mr. Watson Newbold, where, as already stated, great improvement has been effected during the 33 years since it came into his posession, the rotation now employed is as follows: The first year, Indian corn; the second year, about one third in potatoes, one-third in oats, and the remainder in an early variety of Indian corn; the third year, wheat or rye; the fourth year, clover. Having so large a proportion of permanent grass land, mainly natural meadow, the clover sod is turned over the following year, and Indian corn begins the rotation once more. Many farmers, where the surface of permanent grass is small in proportion to the upland, simply take two crops of Indian corn, after breaking up; follow them with two years in small grains, and then seed down for two or three years in grass. One year in bare fallow, as practiced 40 or 50 years ago, has been almost or entirely abandoned.

We visited the fine farm of Michael E. Newbold, Esq., June 10th, but as he was not at home had no opportunity of inquiring into his system of management. This farm consists of 350 to 400 acres—with a beautiful residence enjoying a wide view from the ridge of land on which it stands. Our next call was at Alexander Newbold's, whose rotation is to turn over the sod for corn, then oats, wheat and grass. This farm was among those affording the highest evidences of improvement and fertility; a field of Kentucky white wheat, of 15 acres, was one of the very best we saw during the whole journey—drilled in, as usual with Mr. N., and good for 30 bushels per acre at harvest we hope and believe. Mr. N. has about 190 acres of land; he has been a very neat and thorough-going manager, and has underdrained largely. The stock on the farm was about 30 head of cattle, 40 breeding ewes, 35 swine, and 10 horses and mules.

The next stop we made was at "Fountain Green," the residence of Hon. Jos. K. Hulme—an upland farm of 225 acres, which we had partly in mind, in speaking of some of the land in this part of Burlington county, which had been once worn out under an exhausting system of Wheat culture. Drainage, marling and liming, and farm-yard manure have worked wonderful changes since it has been in his hands. His present garden up to a very recent date was a mere bog hole; it is now the picture of fertility, while the grass fields bear witness to results not less gratifying, and the springs which formerly rendered them almost useless are collected and made to pump themselves up to the house and yards by a simple and compactly arranged water wheel, affording a constant and most abundant supply. The buildings on the farm are capacious and well arranged—the swine pens and poultry house perhaps especially so—the latter we were told affording an income of $300 to $400, besides supplying from three to five tons annually of a *guano* which Judge H. prefers to the imported article, and considers the most valuable manure of the farm. Lime and marl are entitled to much credit for the productiveness now attained; and the enterprise which has been manifested in the work of bringing up the land, and the liberality and perseverance which characterize Judge Hulme's efforts, afford an example which cannot be lost upon the agriculture of the whole neighborhood.

Fountain Green is a mile or two south of Wrightstown, and from there we proceeded to the farm of Mr. Gilbert Lawrie, where we made but a brief call. His rotation is Indian corn, winter wheat, and grass for three years. His steers were grazing a field of fine timothy, which he thought excellent for pasturage, notwithstanding the general preference given to the natural grasses.

Our "nooning" was at "Cloverdale," the farm of Messrs. Cleayton and Walter Newbold, father and son—comprising about 300 acres in one body, with the advantage of one-half its area in natural meadow, and about 30 acres more of outlying meadow, which we subsequently visited. This farm included 30 to 40 acres of corn, about 15 each of rye and wheat, and had wintered a hundred head of horses, mules and cattle—the latter, to the number of 70, being a prime lot in every sense of the word, and just ready for market. For natural advantages, combined with careful management and high condition, this farm must rank second to none in its neighborhood.

The evening we had the pleasure of spending at "Locust Grove," the residence of Mr. John Black, to whose experience we have already referred, and whose ancestors have occupied this same place since the year 1682. It is now about 300 acres in extent, and the grass in its extensive meadows vies with anything we have ever seen in the way of pasturage. Much draining has been done here, as well as at "Cloverdale." On the upland there are great variations in the character of the soil. On the lowland we saw a bed of the bog iron stone heretofore alluded to. The water appears to be so strongly impregnated with iron, as to impart the character of an ore to what it saturates for a sufficient length of time; at least we know of no other way in which to account for the fact mentioned by Mr. Black, that excavations from which the stone has been taken, are found after a series of years filled up by a slow process with a new formation of the same kind. Lime, marl, salt and plaster have all been largely used by Mr. B. The last named he finds of no effect on the lowland. In conversation the subject of *changing pastures* came up, and it was thought the general and best way to give the whole range of land to the cattle at once, and keep them there till ready to leave it, instead of alternating from field to field as some advise.

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* An interesting letter from Watson Newbold on this subject will be found in the Co. Gent., vol. xvii, p. 172, and in Cultivator, April 861, p. 122.

The next morning, Messrs. Watson and Walter Newbold and the writer again had an early start, and the first pause was that at Gaskell's Marl Beds, described already. After a farther drive of some distance we called at the farm of Messrs. J. & S. Butterworth, where over fifty large sized steers were grazing—among them a fat ox of extraordinary size, probably five years old, and destined rival the Sanderson ox, if it goes on increasing in weight for a year or two longer. The arrangement of the barn for winter feeding which we observed here is one adopted by many farmers, and appears to possess several advantages. A broad passage way occupies the center of the barn floor, through which the hay wagons drive with their loads. The use of a horse fork lessens the labor of stowing the hay in the loft above; by beginning to unload at the farther end from entering, the space directly over the passage way is also filled, on poles laid across at such a height as to allow the ready passage of the empty wagon under them, although not high enough to admit it when loaded. On each side of the passage way, and facing it, are stalls for the steers, with a manger extended along in front, divided off into lengths corresponding with every two stalls. This is done, instead of separating the mangers for every stall, in order to admit long cornstalks without cutting or bending them; and grain or meal may be put either into a loose box placed in the manger, or into one end of it partitioned off for the purpose—the former being sometimes preferred on account of the facility with which the animal can *nose* it around and get at all its contents. What we thought the best feature in the arrangement, however, remains to be told: the stalls are entirely separated from each other, so that the animal requires no tying, and in fact has all the advantages of the box arrangement, except that it is too narrow to admit of turning; and every stall has a slatted door behind it leading into the yards. These doors afford abundant ventilation, and are protected by a projecting roof running along just above them, which prevents storms from driving in. Thus the animal has nothing to interfere with his enjoying himself as he likes, and has a plenty of fresh air—a point too often neglected—while the litter and manure are easily removed.

We next proceeded to Mt. Holly, passing the large and excellent farm of Mr. John Black, Jr., of between four and five hundred acres, where we had not time to stop. Near Mt. Holly we called at the farm of Charles Bispham, Esq., where 60 cows are kept, from one-half of which butter is made, and 10 calves fed from the remainder. This farm contains about 300 acres, and has this year perhaps the largest field of Indian corn in the county, being about 60 acres in one enclosure. This is only a temporary arrangement, however. Mr. B., in connection with Mr. Samuel A. Dobbins, who has charge of the farm here, is also engaged in the improvement of a tract of about 2,400 acres of new land a few miles to the east, which they are rapidly bringing under cultivation, meeting with a degree of success perhaps beyond the anticipations they had ventured to form, in the returns obtained as compared with the original cost of the land, which we understood to have been about $5 an acre, and the expenses attendant upon clearing and breaking it up. Both these gentlemen are doing much to farther the Agricultural interests of the county, and their efforts are appreciated by those who see them. Mr. Bispham having acquired a large fortune as a merchant here and abroad, with rare liberality and judgment, invests a portion of it for the benefit of his fellow men as well as himself, and he could have no more practical and thoroughly qualified coadjutor in the task than Mr. Dobbins, whose management must be an example and incentive for those around him.

In Mt. Holly we called at the spacious residence of Wardwell Brown, Esq., whose garden, fruit grounds, and graperies display the results of much devotion to horticulture, and are an ornament to the place.

Leaving Mt. Holly, and passing the well enclosed grounds of the Burlington County Agricultural Society, of the prosperity of which we were pleased to find so good evidence—our drive next carried us along the Burlington road, until, within a short distance of that place, we turned off upon an admirable private road, toward the farms of Messrs. Geo. D. Parish, Edw. G. James and Thomas Richardson. The farm of Messrs. James and Richardson, "Green Hill," has still standing upon it the mansion erected in 1680 or 1690, by Samuel Jennings, one of the early governors of New-Jersey. On this farm as well as on that adjoining, occupied by Mr. Parish, very great improvements have been carried on in draining, &c. In improved stock, these gentlemen have some fine specimens, including Alderney cattle and a few Short-Horns, Leicester sheep and Shetland ponies. A very capacious octagon barn is one of the chief features at Green Hill, having a yard all around it, and sheep-sheds, pig-pens, tool-rooms, an engine and engine-house, and other buildings, also arranged octagonally, and enclosing the yard. The plan of the barn within is such as to admit of an inner row of stalls facing the center, a wide passage way outside of them, and another row of stalls on the outside, with loose boxes and other apartments occupying a part of the space, and capacious storage for hay above. The liquid manures are carried off to cisterns on the outside, and every precaution is taken for the care and economy of all fertilizing materials. On this farm we saw a field of some sixty acres in potatoes, which are an important crop on the place, going mainly to supply the stores of foreign steamers and other vessels at New-York and Philadelphia.

"Oxmead," Mr. Parish's place, is reached from a very neat and tasteful entrance, where a lodge has been erected in admirable keeping with the character of the residence—a substantial building of the olden time, which, with a reverence for age and a sense of fitness, if we may call it so, too uncommon in this country,—has been enlarged and adapted to the requirements of the owner, without any attempt to give it a character and expression foreign to the original design. It thus combines modern conveniences with the marks of venerated years—wide, deep fire-places in which grand old logs may have lit up the hospitalities of half-a-century, and heavy walls and beams probably good for many a half-century to come. It is a pity that such time-honored mansions should be so often torn away, with all their associations and mementoes, to make room for structures of doubtful taste, whose greater pretensions are often too flimsy to bear the weight of years—and perhaps still more a pity when improvements are so inappropriate or incomplete as to render the whole an uncomfortable hybrid between a past of which the "improver" is ashamed and a present of which he has no reason to be proud.

The barn at Oxmead is of brick, and wide, deep and high enough to render its capacity very great. The care taken to secure ventilation is worthy of especial notice; the lower part of the wall is double, admitting air along each side of the stables by entrances at the end, and conveying the impure air through flues which pass out under the roof. An observatory on the top commands a wide and beautiful view in nearly every direction. A large tank receives the water pumped up from springs at some distance by a water wheel, and from this reservoir all the buildings are supplied.

Approaching rain and evening interrupted our visit, and we returned to Crescent Farm after another busy and delightful day. When in the vicinity of Burlington, there are some other calls which if it had been possible, our programme would certainly have included—among them one at the nurseries of our friend George B. Deacon, who is among the oldest and most efficient of those to whose kind offices during ten years past the books of the Country Gentleman bear witness.

Various other Notes and Items.

Before leaving Mr. Newbold's the next day, we had time to look about his farm and buildings more thoroughly. A simple feeding-box for hay in his cattle-yards, which for cheapness and durability he prefers to any other, is made of cedar poles perhaps five inches in diameter, three or four poles high, according to their size—these poles ten feet long, placed triangularly and pinned together by a half-inch iron rod passing perpendicularly through each of the three corners. The sheep feeding-rack which meets his wants most nearly, is constructed with corner posts 1½ by 2½ inches, 2 ft. 3 in. high,—the rack of any convenient length, 2 ft. 3 inches wide, with no bottom, boarded up on the sides and ends 15 inches from the ground, and the distance between the boarding and the top slatted up and down with "shingling lath," 1 by 2½ inches. The top slat, to which those on the sides and ends are nailed, is bored at the ends to fit on to a pin cut in the top of the corner posts, and a stay across the middle, and one at each end, just below the top slat, completes the whole. It answers well for hay, there being no tipping over or other cleansing necessary, but would not suit the requirements of those who desire something in which grain and meal or roots can be fed as well as hay.

Watering places in the fields are made by opening a sort of trough down to the depth of the drain, with nearly perpendicular ends, and sides receding two or three feet to every *one* of depth—the water from the drain entering at one end and the surplus going out at the other, into the continuation of the drain. The sloping sides and bottom of the trough are of cedar poles secured in place, and preventing the treading up of the ground. At the lower end, a simple arrangement by means of one or two tile set on end in the ground, connects with the drain below in such a way as to prevent the drawing in of either floating or sunken impediments, and a sink hole beneath the drain level may receive any sediment by which it would otherwise be clogged.

On some young trees in a pasture, in danger of being rubbed and gnawed into by cattle and sheep, Mr. N. had tried driving nails at intervals into each side of their trunks, leaving half an inch or so of the head projecting, and smearing the trunk beside with gas tar. He thought this cheaper and as effective, as an enclosure of boards or rail, but feared that his descendants or successors might have some difficulty in sawing and splitting the timber in future years.

The last morning we also called upon Mr. John Bishop a neighbor of Mr. Newbold's, and where we could overlook an expanse of meadow land nearly a mile and a half in width, with some narrow intervening points of low upland. The creek here runs westerly (the Assiscunk, we believe) toward Burlington, and the meadows extend for some distance above and below, but diminish in width and fertility after going a few miles farther down the stream. Mr. Bishop's farm includes 400 acres, about one-half upland, and nearly fifty in wood. He has this year 35 acres in wheat, as many more in Indian corn, and 14 in oats, is feeding 90 to 100 cattle, and about 50 ewes. One field of wheat on Mr. B.'s farm was simply harrowed or cultivated in, we understood, last autumn among the corn, and the rows which had been occupied by the stooks were now vacant. The remainder of the field was covered with a promising growth, and a fair yield would probably result.

Mr. Newbold's oat and potato fields, which we looked at on the way to Mr. Bishop's, were promising remarkably well. Potatoes Mr. N. plants in hills 3 by 2½ feet, two pieces in the hill with two eyes cut to a piece—covered by the plow, and the ridges thus left, which are too high, scraped off and levelled with a piece of timber long enough to reach over three ridges at once—say seven feet—fitted out with handles like those of a plow, and drawn by a chain attached on the same side of the timber as the handles and passing over it to connect with the whiffletree of the team. This is found to work better than where the chain draws from the front of the timber, since by drawing from behind there is a constant pull to tip the handles forward, and leaning upon them to overcome this draught, is just what is wanted to do the scraping well. The oat crop on Mr. N.'s farm has for several years averaged not less than 50 bushels, weighing from 33 to 36 pounds per bushel.

As an example of the fact that considerable fine poultry is reared for market in this part of Burlington county, Mr. Walter Newbold mentioned a case of which he had lately been made cognizant, in which eighty-five fat capons were sold for $200—twenty of them averaging 10 lbs. each as dressed for market, and bringing 30 cents per lb. The actual amount for which these 20 sold, was sixty-one dollars and some cents.

Fruit of various kinds receives a due share of attention. Prof. Cook's Report alludes to a remarkably good strawberry patch which took the prize of the Burlington Co. Ag. Society in 1855, "for the most profitably cultivated crop in the county." It was returned as yielding "at the rate of twelve hundred and twenty-two dollars an acre, clear profit." Two or three acres at this rate every year, would suffice to place quite a family above the fear of immediate indigence.

On the drive to take the train at Bordentown, we passed several farms illustrating either the natural advantages of location or the careful management of their owners. Among them were those of Messrs. Joseph De Camp, Jas. Decon, John and Joseph Troth. The last two are examples of the kind referred to in our general remarks at beginning—farms not originally so rich as to rank among the best, but nevertheless brought to a high state of cultivation and productiveness from the skill which has been shown by their owners. Mr. Joseph Troth, whose farm we should have paused to examine more carefully if time had not hurried us away, is about to open a seed store in Bordentown, where his experience as a farmer will come in play to great advantage.

The subject of feeding calves for veal, as already intimated, is one to which much attention is here paid. We should be glad to receive from Mr. Newbold a full account of the system of feeding most successfully adopted.

In drawing these notes to a conclusion, we can scarcely speak too highly of the general appearance of neatness and comfort apparent throughout the whole extent of the tour. The farms visited were necessarily few in comparison to the number possessing claims for scrutiny and commendation; they were selected as on the whole illustrating most completely the character of the Agriculture of the county, and the degree of perfection to which it is carried. The size of farms generally is not so great as those we have described, the larger number being of two hundred, one hundred and fifty, or a hundred acres, with some yet smaller. But nearly all are very well and substantially enclosed, and the fence corners clean of weeds and bushes, while the same holds true of the fields, as a general rule—the cultivation being such as to compare favorably with any other part of the country we have ever visited. The general style of fencing, we should add, is with white cedar rails, with erect stakes or posts, giving it a more tidy look, and occupying less space than the Virginia fence as commonly put up with stakes set obliquely. Some of the rails in fences near Mr. Newbold's, he assured us, had been in use from one hundred to a hundred and fifty years, and instances are not rare of fences in good preservation which have stood with repairs from time to time, for thirty, forty, or fifty years. The farm-houses are on a scale commensurate with the prosperity and culture of the farms, and the out-buildings are capacious and substantial. Everything wears an air of contented thrift, and evidences abound that one is in a reading and thinking community. The good course of improvement that has been begun and already borne fruits so encouraging, we cannot but think destined to continue; and if Providence should permit us the pleasure, ten years hence, of another such trip under Friend Newbold's guidance, we shall expect to hear farther accounts of pastures feeding yet larger herds of cattle, and reapers garnering in yet heavier crops of grain. With such advantages both for the purchase of fertilizers and the marketing of crops,—with such climate and soil, we see no reason why the agriculture of this part of New-Jersey should be second to that of any other State or country. L. H. T.

Some points in the preceding articles receive additional elucidation in a letter from Watson Newbold which reaches us during the preparation of the present number. Thus he says on the subject of

Depth of Drains.—"By putting the bottom of the drains 2 or 3 or 4 inches below the bottom of the vein of springs, so that the water will have a fall into the tile, they will more effectually do their duty, than where the tile be laid on the top of the spring. The general depth is probably some 3 feet, but as a consequence, must vary from 2 feet to 4 feet, according to the depth of the under ground veins of water, (which exist where drains are essential) and in some cases they are made deeper, for short intervals, as required either to cut certain veins of water, or to acquire the requisite fall to an outlet. The only universal rule I know of as to the depth of drains, is to endeavor to get down below the water veins, and then open below the outlet of the tile drains, though this latter is sometimes very difficult to accomplish. Neither can the distances apart be designated, except as the occasion exists. In most cases, none at all are requisite, or of adequate advantage, while in some other cases, the situation requires them pretty closely, though in most cases a single leader with more or less branches, is enough. These are laid with small size tile at the head of the drains, and the size increased one or two sizes, as the drain seems to require it, remembering that after running a few weeks they generally discharge *much less* water than at first, from the fact of the steady draining, day and night, having lowered the supply."

Opening and Filling the Drains.—"When the soil is adapted to it, and not too soft in the bottom for one of the horses to walk, and the width and depth of drain admit of it, two rounds of the plow may be made in opening the drain, but in this case shoveling up after each of the later furrows is necessary, as there is not sufficient width of ditch to hold both furrows at once. But if there be a *subsoil* plow at hand, that is preferable for this third round (that being the only value of such a plow moreover, in my opinion, after several trials of it.) The remainder of the ditch is made with the usual tools, using for the last spit a spade, and observing that in finishing off the bottom, more especially where it is of but slight descent or soft bottom, that the man should be provided with a very narrow and shovel-handled and thin bladed spade of *hard, fine metal*, which will enter the ground easier, and let the clay or mud *slip off* of it the better, much to the relief of the operator in sticky bottoms. He will then face down stream and work up, shoveling this last time an inch or two in depth from him, and every one, two or three shoves on the bottom; then stroke the loose crumbs up to him, and so let there be no footstep on the bottom after finishing. Then lay the tile generally from the top end, walking carefully on them; after which coarse litter is put on pretty freely, more especially where the soil is loose, and this is settled by a coat of dirt—carefully walking on it to press the two sides—and then more dirt, after which the final covering, in cases where no sod exists, may sometimes be expedited by a plow, but not always. When a plow is used the dirt should be thrown out uniformly alike on each side, and also uniformly filled in on the tile before using the plow. A hoe made of an old shovel or spade blade, with a short handle set at a proper angle, and with an enlargement at the end to prevent the hand from drawing off, is a good tool to draw the banks in with. As to the use of *round tile*, I not unfrequently meet with a hard subsoil where I think it would be troublesome to cut out the hollow in the bottom of the drain, necessary to keep them exactly in place. I have used a few octagonal tile which I should think preferable to the round on account of this difficulty."

Use of Lime.—"The experiment referred to, of a trial of lime on meadow land, was made nearly 20 years ago. One strip showed no benefit from the application, although on most parts of the field the effects were very apparent. The part not benefitted was a naturally rich alluvial soil."

The Use of Marl.—"In some localities, and on some lands, it has answered well to renew the application, and in some instances several times; while in others the same marl had very little effect after the first application, and in some places it has produced no beneficial effects, even at the first. Some 15 years ago I spread a load of good marl on a meadow in grass in December, and another load beside it in February next, and another beside that in the December next. The effect of the first was very great; of the second, about half as much, and of the third about as the second. This trial was made after having observed that marl had not acted uniformly when spread at different times on similar soils on my own and neighbor's land. There seems to be something dependent in a measure on the different action of the elements at different times upon the marl, which is not, and never has been, understood; and in cases where there is a small admixture of the green granules of marl all through the native soil, as can be plainly seen by washing a handful thereof, even there the marl laying underneath it acts with as much or more benefit than in other places, and I think that marl as well as lime, should only be extensively and repeatedly used after actual trial in different places, as much has been lost by injudicious applications. There are many other marl beds in this county and some others adjoining, mostly to the eastward and southward, and many of them of excellent quality."

The Manures of the Farm Yard.—" These are, after all, the best and most reliable of fertilizers and the farmer's most sure dependance. More or less raw manure is drawn out early in the spring and spread broadcast before plowing for corn, and in some instances, more especially on the northeastern borders of this county and that of Monmouth adjoining, the practice has prevailed of late years, to some extent, to draw out the barnyard manure in the more leisure month of August, and spread it on the grass sod where it is intended to plow the ensuing spring for corn; and wasteful as this practice may appear to be by some, yet the number so doing is increasing under their conviction, founded upon experience, that by it they derive the greatest benefit. On visiting the farm of an old experienced and successful agriculturist of this county, some 30 years ago, I inquired of him the best time to apply barnyard manures, to which I received the significant reply: '*When you have got them*—the main thing is to have plenty of them, and be sure to put it *all* on the land as soon as you can well do so.' "

Re-Seeding the Meadows. — " After breaking up meadow land to level inequalities of the surface, and taking a crop or two, it receives a good liming, and is sown with herds grass and timothy seed, (but no grain,) and where not too low, with clover in the spring following, so to remain thenceforth, without even again plowing, but occasionally top-dressing spots that may need it."

Sheep Farming in Illinois.

I want to tell you how one of my neighbors, Mr. Chamberlin, has wintered about seven hundred sheep the past winter, and the success he has had with his lambs. The winter, as you know, was an open one, almost without a precedent since the settlement of this region. He commenced feeding them corn as soon as they needed it, commencing moderately until he fed as high as eleven bushels per day, usually feeding as soon as let out in the morning. He managed to get the range of farms in the neighborhood which had not stock sufficient to use up the after growth on pasture, meadow and stubble fields. In this way I think he has kept them out so that he has not fed them to exceed a month on hay, all put together.

It is thought by many, that corn-fed ewes are apt to drop weak lambs, but in this case at least it does not seem to have produced this result. His lambs began to drop the first part of April, and when he had 228, he had lost but one, and he says that one was dead when dropped. I think this is in advance of anything in lamb raising I have any recollection of. A. Moss. *Boone Co., Ill., June* 1.

HOW TO MAKE CLOVER HAY.

Eds. Co. Gent.—To your truly valuable article on haymaking of 26th of June, allow me to add a little as the reresult of my experience. Clover should never be cut when wet either by dew or rain. My practice usually is to start the mower, say at 2 or 3 o'clock p. m., and cut until the dew falls.

If the sun is very scorching, I begin later in the day. This is put into cock the next day, sometimes before noon, but oftener later, depending upon the weather and thickness of the grass, but always before the leaves get *crispy*. Sometimes I commence cutting as soon as the dew is off in the morning, and get it up the same day.

If the dew or rain falls upon clover while it is *green*, little or no injury results from it if fair weather follows soon; but after clover is considerably dried, rain or dew cannot fall upon it without serious injury to the quality of the hay. p. p. b. *Batavia, June* 25, 1863.

Good Steers---Improvement of Cattle.

Messrs. Editors—On the 17th ult. I sold the pair of two-year old fat cattle I formerly wrote you about, for one hundred and seventy dollars and ten cents. One was 25 months and two days old the day he went away; the other 25 months and 10 days. They consumed $53.50 worth of grain, including oil meal, from calves until they went away. The account would stand thus:

Cash received..................	$170.10
To oil meal, corn, &c..........	53.50
Leaving, for keep, say milk, pasture and fodder.....	$116.60

One got no new milk. There was only five pounds difference in weight when they left me.

I am aware that there are many thousands of cattle in the State of same age, that are worth only from $10 to $14 each. It does appear to me that if farmers would cross their stock with Durham bulls of the best breed, they would realize a handsome profit, by so doing, and feed better at the same time. I counted the grain my steers consumed at the highest market price, and the oilcake meal at the price it cost. There are many pure bred Durham bulls in this State now for sale. James O. Sheldon, Esq., near Geneva, has as good bred Durhams as probably can be found in any country. The Hon. Wm. Kelly of Rhinebeck, has also a very good herd; also Samuel Thorne, Esq. of Dutchess, I understand has a large herd of choice Durhams, and many others have very good ones. There is plenty of that stock now to improve the breed of our cattle immensely, and by a few farmers buying a pure bred bull in different neighborhoods, the stock would soon be improved. But good cattle can never be made from straw in winter and poor pastures in summer; and then the manure made from well-fed cattle is surely worth four times as much as that made from straw only. John Johnston. *Near Geneva, June* 16.

MARES IN FOAL AND NEAR FOALING.

A somewhat singular exhibition of natural instinct in the case of a mare in foal having come under our observation, we have thought that it might serve a good purpose to put it upon record, together with some remarks as to what common sense seems to dictate as to the treatment of mares when near the time of foaling.

A neighbor was plowing, near to where we were at work, a field which had never been effectually cleared of the stumps of large white oak and hickory grubs. The piece had been grubbed by job-work, and grubs which should have been taken out by the roots, had been cut off merely at or near the surface, so that the man plowing could not see or shun them. Of course, every now and then the plow would strike one, and either severely jerk or stop the team. One of the team was a mare not very far from her time of foaling, and whenever the plow was caught by a grub, she would turn partly around and look at the driver, as if she would have liked to tell him that that was not proper work for her. Finally, after showing more and more her reluctance to start again, she refused absolutely to draw at all. She had never shown any disposition to be balky during a service of seven years; and at our suggestion that the mare instinctively knew that the jerking was injuring her or her colt, she was released from attempts to force her to continue the work.

Upon this occasion we have said once, thought oftener, that if mares had tongues to speak, they would complain of *mis-treatment* whenever the work they were put to was of a similar jerking nature, or when made to trot quick upon a rough road, or to plow headlands or stiff soils, or to harrow land so rough and uneven as to jar them by the dipping of their feet or the inequality of the draught. For several weeks before foaling, mares should not do any work which shakes, jars or jerks them, and should be gently treated. A.

Cheese Factories and Dairy Farms.

The 24th, 25th and 26th of June were spent by the writer among the Dairies of Oneida and Herkimer counties. The subject of Cheese making was investigated quite fully in the company of some of the best and oldest dairy farmers in that admirable dairying district—a large number of experienced witnesses having been questioned and cross-questioned on the stand, or rather by the side, of their own cheese vats and presses, and their testimony being most amply and vividly illustrated in the contents of these vats and presses, and along the well filled shelves of their curing rooms. We should therefore tender our acknowledgments for the many attentions received during the trip, not less than for the readiness with which every facility for acquiring information was cheerfully granted. Nothing could afford clearer evidence of the confidence reposed by the makers of cheese in these two counties, in the superiority of the product obtained and the demand in which it is held, than the obliging disposition they manifest to communicate to any and every inquirer, the fullest details reached in their extensive practice. This liberality is both gratifying and instructive.

As something of an interval may elapse before the publication of our notes on the Cheese Dairies—the present design being to prepare an article embracing them, for the forthcoming number of the Annual Register of Rural Affairs (for 1864,) we give below a very brief outline of the journey. It may be preceded by the remark that the present season has been unusually favorable in the localities visited. The grass is excellent—the weather having been cool with quite frequent showers; and the grain sown, although limited in area of course, where dairying is the main object of the land, is uniformly looking well and sufficiently advanced, except perhaps the Indian corn, and this is not as backward as in some localities. A good crop of Cheese may consequently be expected, but we doubt the correctness of the anticipations entertained by some, as to an *immense* increase in the quantity made. There has been some increase attendant upon the high prices commanded of late, and the product will doubtless be considerably larger than heretofore. But, so far at least as Oneida and Herkimer are concerned, the product of several years past has been very heavy, and there was scarcely room, if there had been the disposition, to multiply it to such an extent as to create any surplus on the market.

Our first visit was at the farm of Mr. John G. Webb, near Utica, who is not a cheese farmer, disposing of his milk daily in the city. He has a dairy of 60 cows, and is soiling them to a great extent—a practice which works so well in his hands that he will ultimately make it his sole dependence, we understood, even more completely than at present—[See his article on this subject, Co. Gent., vol. xx, p. 235, Oct. 9, 1862.] Mr. Webb's farm consists of about 240 acres, the principal part of which is now occupied as follows:

	Acres.		Acres.
Meadow for Hay,	100	Barley	18
do. for Soiling,	20	Oats.	18
Pasture,	25	Potatoes,	18
Fodder Corn	12	Ruta Bagas,	2

Mr. Webb's intention hereafter is to sow rye for early soiling, after which the clover will be in season, followed by Indian corn sown for fodder, as described in the article above referred to, thus supplying green food the season through. In answer to the question as to his experience in the average daily yield of milk, Mr. W. said he thought if his cows averaged 7 quarts each per day for from nine to ten months in the year, they were doing well, and that this was probably above the ordinary yield.

With Mr. Webb—to whom we owe the first idea of the journey, by the way, as well as a large part of the pleasure and information obtained, we next called upon our old friend Rev. C. E. Goodrich, who has done so much for many years past in the production of new seedling Potatoes, and to whom we owe the Garnet Chili and various other valuable sorts daily growing in public favor. Mr. G. accompanied us to the grounds of the State Lunatic Asylum. The superintendent and physician of the establishment, Dr. John P. Gray, deserves the highest credit for the condition of affairs both within doors and without, and we have never visited an institution of the kind, either in this country or abroad, combining so many desirable features—such perfect order, neatness and discipline, together with so many evidences of careful and judicious management throughout. We shall recur to this visit at an early opportunity, with some interesting facts which Dr. Gray has kindly furnished.

A passing call at the residence of Samuel Campbell, Esq., of New-York Mills, added that gentleman to the party, now including also Dr. Gray and Mr. Webb, and we drove to the Cheese Factory recently erected in Whitesboro, and owned and carried on by Mr. Geo. Williams and Dr. L. L. Wight. The former of these gentlemen, with his father, has probably had more extended experience than any others, in this direction, and we were greatly interested in the processes we saw going on—full notes of which were taken. The number of farmers now sending their milk to this factory is 48—owning in the neighborhood of 650 cows—and the quantity of milk received at the factory the day before—June 23d—was 14,915 pounds, or about seven tons and a half.

We next returned to Mr. Campbell's, where we enjoyed a ramble over the fields among the Ayrshires, which form one of the leading herds of this breed in the United States, for their select character, although exceeded by some others in numbers. "Heather Bell," "White Lily," "Handsome Nell," the heifer "Tibbie," and others might be named as admirable examples of the best Ayrshire stock, but it seems almost invidious to select any for especial mention. Mr. C. has also a number of Short-Horns, although his fancy is rather for the Ayrshires—among them the young bull "Iron Duke," by Belmont out of Rosamond, an animal of remarkable size, and bearing a resemblance in some points to Duke of Gloster, the sire of Belmont. Only in good working order, and but little over three years old, he was weighed some time since and found to mark over 2,500 lbs., which illustrates better than anything else how large and solid he is. The sheep at Mr. Campbell's include some excellent Leicesters and a few of the Blackfaced Scotch Sheep imported some time ago by Mr. Brodie. We were much interested in going with Mr. C., through one of the three cotton mills of which he is a proprietor, and which render the "New-York Mills" muslins familiar to every purchaser of the best shirtings that are manufactured.

The next step in the programme was to have been a drive to two Cheese factories near Oriskany—one carried on by Mr. Wilcox, and receiving the milk of about 600 cows, and the other by Messrs. Tanner, Wood & Ashley, to which the milk of some 900 cows is contributed. But the day was too far gone, and we regretted the necessity of omitting this part of the tour—taking the railroad, instead, for Rome, with Messrs. Webb and Williams, and reaching the farm of the latter gentleman, between four and five miles north of Rome, at quite a late hour in the evening.

Thursday was spent in visiting the Cheese Factory of Mr. F. B. Smith in Delta; that of Jacob Miller at Westernville, who manufactures Swiss cheese, a full account of which we hope to have for publication; the farm of the late Henry Wager, also in the town of Western, and the cheese factory of the Rome Cheese Manufacturing Association, Jesse Williams, Superintendent, and the Ridge Factory of Messrs. Crosby & Huntington. That afternoon we returned eastward as far as Little Falls.

Here we were met by Messrs. Whitman and Green on the part of the Little Falls Farmers' Club, and in the evening visited the farm of the former gentleman on the heights across the river from the town. The next morning our first call with Mr. Whitman, was at the farm of X. A. Willard, and accompanied also by him, at those of Messrs. Elijah Stanton, in the township of Little Falls, Abram Keller, J. W. Windecker, Reuben Neely and W. S. Ford, in Fairfield, and Josiah Rice in Manheim. Our drive also carried us into the town of Salisbury. The afternoon was spent at a meeting of the Club, at which there was a full attendance, and a spirit of enterprise and discussion manifested, proving the usefulness of such an organization, not less than the interest and judicious management which have rendered this one of the most successful societies of the kind in the State. Our thanks are due to the Club not only for their efforts to render our visit an agreeable and useful one, but also for the appreciative attention with which the off-hand remarks forming a part of the "order of the day," were kindly listened to. In the twilight and moonlight of a charming evening, we had a delightful drive with Mr. Alonzo Reed, into the township of Danube, which made the fifth town visited in Herkimer county alone, and where we saw, on the farm of Mr. R., one of the best dairies of cheese, and as many evidences of improvement, as in any part of the trip.

When we add to the foregoing hurried sketch of the extent of ground traversed, that our notes on many parts of it are quite long and full, it will be perceived that the budget in detail is far too heavy a one to be hastily unfolded. We have seen Cheese enough, made and making, to last many thousands of individuals, we should judge, for the remaining term of their natural lives. We have seen milk fresh from the cow, and milk just thickening at the first impulse from the rennet; the curd scalded and standing; the curd cut and stirred; the whey turning to the dim green which betokens the near completion of the task, drawn off to nether and unseen tanks, and finally draining from great sinks, in which at last the curd receives its modicum of salt and final handling; and, lastly, we have seen the cheese going into press and coming out of press; standing by the hundred to cure; on its way to market, and, now and then, samples cut for "tasters." In fine, if there is any stage in the inception or completion of this important product which has not been included among the sights of the journey, from the time the clover and timothy stand in the pasture, to that at which their condensed juices are boxed in rich, round discs and despatched to New-York and the ports beyond the Atlantic, we are not aware of the omission, and will take the trip again to rectify it. During three days of last week Little Falls alone committed to the tender mercies of the Central Railroad nearly 3,500 boxes of cheese weighing over *one hundred and thirty-two tons*, which sold for a fraction over $30,000 and was mostly paid for in cash. Let that statement close our story for the present. L.H.T.

VENTILATING HAY STACKS.

It is not every farmer who has barn-room for all the hay that he cuts, and must necessarily stack some of it out of doors. Newly made hay, when exposed to the weather in the stack, is more liable to injury from heating than that which is put into the barn. It also not unfrequently occurs that from threatened bad weather, or in order to secure hay which is cut near the close of the week, that it is put up before it is thoroughly cured. Injury from these causes may be entirely prevented by exercising a little care in ventilating the stack when it is put up. With this precaution, hay that is quite green will cure finely in the stack, and come out sweeter and better than that which is too much exposed to the sun in curing. Our practice has been, first, to lay a good foundation for the stack, of old rails or poles, laying two tiers, and crossing them; then to stand five or six others up in the centre, eight feet long, and two feet apart at the bottom, the ends coming together at the top. If these are allowed to extend to the top of the stack, they will be in the way of finishing off, as the stack diminishes. But in order to extend the opening to the top, when the ends of the poles are reached, a round smooth stick, prepared for the purpose and inserted between the ends of the rails at the top, and the stack built up, and as it rises the stick is drawn up, and when the stack is somewhat settled it is taken out entirely. A hole is bored through the end of the stick, and a rope or a wooden pin inserted to draw the stick up with. This centre piece may be six or eight inches in diameter; thus leaving an air passage from the bottom to the top of the stack. When the hay has passed through the sweating process, and all danger of moulding is passed, the opening at the top is closed with a cap of straw or hay. This precaution costs but little labor, and is many times compensated by the superior quality of the hay.

My Experience in the Use of Plaster.

Messrs. Editors—Having been a constant reader of The Cultivator from its commencement, and received much benefit therefrom, I will give you some of my experience in regard to the use of plaster, having used it for about forty years. I agree with my friend J. F., that the best time to sow it is in May on grass lands. I have received great benefit from it on all kinds of grain and roots, especially potatoes. It has the most effect on land that never received any plaster.

I have two fields that have been highly manured, and have had crops on them for fifty years (and I don't know how much longer,) on which I have tried plaster on corn and other grains, and from which I never could perceive the least affect. Where I use plaster I leave a piece or row to see what benefit I may receive. I have left a square piece in the centre of a meadow; the next year I plowed and sowed it, and it was plain to be seen the second year.

I use tar and plaster on my seed corn. One man, unbeknown to me, planted one row in a field from an ear of corn; that row was plain to be seen all the season; it looked yellow, and did not yield as well as the rest. I let a man plant a field on shares. I told him he had better plaster it; he said it would do no good. After he had got through working it, I went unbeknown to him and plastered a few rows. When he cut up his corn he asked me if I knew what made these rows so much better than the rest? I told him it was the effects of plaster. My soil is gravelly loam. B. Miller.

Schuyler County, N. Y.

EDITORIAL CORRESPONDENCE.

Croton Point Vineyard.

A day recently spent at these celebrated vineyards afforded a great deal of interest in connection with the culture of the grape.

Croton Point, as our readers well know, is nearly opposite Sing Sing, and extends about two miles into the North River, at its widest portion, dividing Tappan from Haverstraw Bay. It contains several hundred acres. The extreme point is occupied by the renowned vineyards of Dr. R. T. Underhill, which contain about 50 acres. Adjacent to these are the vineyards and other grounds of his brother, W. A. Underhill. Both are very successful cultivators of the grape.

Stopping at Croton Station, a private drive of two miles over a carriage road of great variety and beauty, occasionally through dense woods, under old twisted oaks mingled with natural shrubbery and wild flowers—now sweeping for half a mile over a smooth plain, and then descending to the beach of the broad bay under a long avenue of trees, and through vineyards, orchards, gardens and pleasure grounds—we reach Dr. Underhill's fine Italian mansion. It is certainly one of the most beautiful and picturesque residences in the county, being washed by the waves of the river on three sides, where it spreads out to several miles in breadth. The Point is about 50 feet above the water, and its sloping sides are covered with the wildest natural growth, and are traversed by winding walks and carriage drives. This locality, surrounded as it is by open water, is remarkably favorable to the growth of fruit. Both the Isabella and Catawba grape ripen here; the latter about three weeks later than the former. The vines are trained on wire trellis, about eight feet high, supported mostly by chestnut posts, but some by locust. Since timber has become costly, the posts are placed about twenty feet apart; and the vines being about ten feet apart in the row, two occupy the spaces between the posts. Three wires are used, the upper being eight feet high, and the other two not two and a half feet apart, leaving a space of three feet next the ground.

This space is considered essential to the proper circulation of the air. A less height for the trellis was found to cramp unnaturally the growth of the Isabella vine; and by raising the trellis from six to nine feet, the product of the vines was doubled. A light stool ladder is used for gathering the upper branches.

The mode of training—the result of many years experience—is exhibited in the annexed sketch. The two upright branches of the vine are permanent, and remain as long as the vine lasts, unless accident or injury should require the removal and renewal of one of them. A horizontal cane is trained along said wire and is commonly renewed every year, bearing shoots growing on last year's wood. These canes furnish the fruit-bearing shoots, which are commonly thinned out, so as to be from ten to fifteen inches apart. They are allowed to grow their full length, without being stopped, unless it be the first of autumn, and commonly attain a length of some three or four feet. The weight of the fruit ultimately gives them a drooping position. The space between the rows, or trellises is commonly eight feet; on rich land a greater width is required and on a poor soil less will answer. W. A. Underhill informed me that a fertile soil is by no means desirable, causing too great a growth of the vine, less productiveness, fruit inferior in flavor, and a greater liability to winter-killing; while more room than is profitable must be given to the vines. He would never plant a vineyard on land that would produce more than fifty bushels of corn per acre and less would be better. He has some good vineyards on soil that would produce only about twenty bushels per acre. Nearly all the soil here is quite light, being primitive sand and gravel—he thinks on the strong rich soil of Western New-York the trellises should be at least twelve feet apart. The warmth of his soil may be judged by the fact that last year he raised seventy bushels of sweet potatoes, and that some years ago he loaded twenty sloops with water-melons from thirty acres. Both he and the Dr. have found little or no advantage in deep sub-soiling, the increased growth being rather a detriment. The great requisite appears to be to keep the soil constantly stirred and mellow by passing the harrow or cultivator through, after every considerable rain.

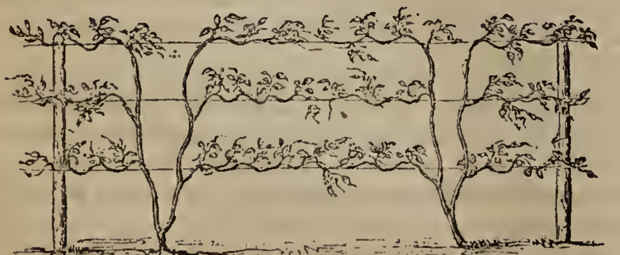

Fig. 1.—Isabella Grape as trained at Croton Point, as seen early in summer, after the second thinning, and before the shoots have made much growth.

Dr. Underhill informed me that his routine of work had been about as follows:—His men commenced trimming soon after the middle of winter, and continued, as the weather admitted, until the frost was out of the ground in the spring. The spaces between the trellises can then be plowed, throwing the earth towards the centre and away from the vines, and running the plow rather shallower as it approaches them—although tearing the roots slightly is considered no disadvantage. Plowing the earth away from the vines is regarded as favorable to the admission of the warm rays of the sun. He showed me a vineyard, planted on sloping wet ground, which did not succeed well; but placing a tile drain three feet deep, midway between the trellises, has made it an excellent vineyard.

Some of the vines in these vineyards are thirty years old, and are three or four inches in diameter. They improve in value with age, or at least they have done so up to the present time. The new varieties have not been much tried, nothing having yet been found that will certainly supersede the Isabella and Catawba. The Concord ripens here no earlier than the Isabella, and the Diana hardly so early. It is not improbable that the age of these Isabella vines, and the consequent moderate growth and productiveness, may give them an advantage in this respect over younger and thriftier plants.

Dr. Underhill has a fine grape avenue over one of his carriage roads, made by erecting posts sixteen feet long or twelve feet above ground, and sixteen feet apart. Wires are stretched across from the tips of these posts, and support horizontal vines. On one side a vine is planted at the foot of each post; on the other, a branch at each post is brought from the adjacent common trellis. The annexed cut, exhibiting a single pair of these posts serves imperfectly to represent the appearance of this avenue. Where the ground is rather rich it is found useful thus to give the adjacent vines a chance to extend

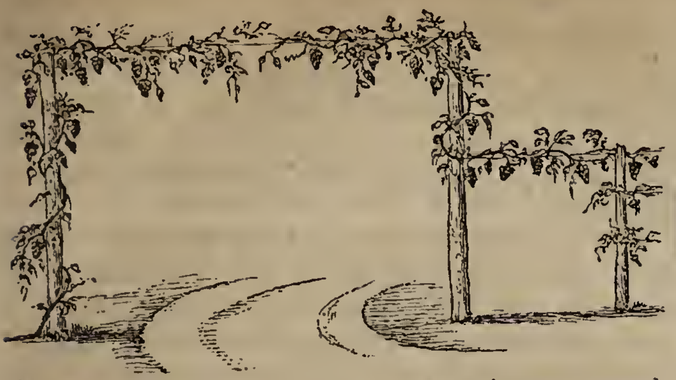

Fig. 2.—Grapes trained in an avenue over a carriageway approaching the residence of Dr. Underhill, at Croton Point.

themselves; and W. A. Underhill showed me where he had in a similar way extended the vines over the strip of land on which the horses turned in cultivating it. The grapes thus obtained over this otherwise vacant piece of land, amounted to sixty dollars in a season.

I should have remarked, when speaking of the mode of training adopted here, that the horizontal mode is believed to be by far the best, and favoring great productiveness in connection with moderate growth. As the soil is never uniform over a whole field, and plants differ in vigor, some discretion must always be exercised in training and thinning. If the shoots are rather feeble, more thinning is required; and where last season's canes are unusually luxuriant, they are twisted around the wires early in spring—the apparent cracking or breaking in performing this work never injuring them. In cases where the horizontal canes have not made sufficient growth, the older wood is allowed to remain for a time.

The grapes of these vineyards have been usually and most profitably sold as fruit; but when the price is low, a part have been manufactured into wine. The Dr.'s wine-cellars are very extensive; they are built of masonry, and roofed with arched brick, with several feet of earth above them. They contain at the present moment, according to his estimate, twenty thousand gallons—worth at lowest prices, fifty thousand dollars. Many of the largest casks or pipes contain 800 gallons each; they are made of best seasoned white oak, two inches thick, strongly hooped with iron, and with concave heads; and cost about fifty dollars each. Although serious doubts are entertained by many as to the propriety of introducing wine as a common drink, the Dr. thinks his manufacture will prove excellent for medicinal purposes. The best is made by mixture of the Isabella and Catawba juice. A large portion of his supplies, is many years old.

He showed me his famous plantation of plum trees, where the trees are planted in an inclined or nearly horizontal position over water. I found many of the plums however, punctured with the curculio, and the eggs in the young fruit. I am therefore induced to think that he is mistaken in supposing that the natural instinct of the insect prevents it from depositing its eggs over the water, but as these trees have borne well when others have failed, the water has no doubt served to destroy the larvæ that have fallen into it in the same way that pigs and poultry have done on land.

Before closing this hasty sketch, I ought not to omit a brief notice of W. A. Underhill's excellent brick barn, which is a model of its kind. It consists of two portions —one containing floor, bay, and stables,—thirty by fifty feet, and the other joining it, occupied as carriage-house and stables—the former thirty feet square, the latter fifteen by thirty. They are all neatly paved with hard burnt brick set on edge; the posts dividing the stalls are handsomely turned and varnished locust, and the other large timbers are also locust. There is an under-ground cistern, covered with arched brick and a foot or two of earth, containing 300 hogsheads. The barn having a slate roof, furnishes very pure rain-water, and pumping a portion from the cistern, it was found to be as clear as the purest spring water. J.

STONE AND STONE WALLS.

During a recent visit to E. B. Underhill of Yorktown, Westchester Co., who occupies a fine farm of 240 acres, we had an opportunity of examining some excellent specimens of stone walls for farm fences. Most of his farm was formerly encumbered with a profusion of boulders, the removal or sinking of which has cost on an average about fifty dollars per acre—some however requiring an expenditure of two or three hundred dollars per acre. A large portion of these stones have been used in building walls; many hundred rods have been thus constructed, and they serve as models of their kind. They are about four feet thick at bottom and 20 inches at top, and are four and a half feet high, and handsomely faced on both sides. The stone being mostly flat or stratified, (gneiss,) admit of a very perfect wall—flat and even on the top. Like all good walls, they are either laid in trenches or built over drains filled with stone. These trenches are as wide or a little wider than the walls, and are first made about a foot deep, the depth being afterwards increased by raising the earth on each side about six inches. These walls are never disturbed by the heaving of frost—some, 25 years old, being as straight and even as when built; while others, on neighboring farms, merely laid on the surface, are twisted, tottering, and tumbling in every direction. The cost of the best wall was about five dollars a rod.

Many of the smaller stone have been used for underdrains, for which their flat form well adapts them. Some underdrains thirty years old, are still perfect.

As a recreation, the proprietor has spent a few thousand dollars in constructing a fish-pond, bath-house, &c. The soil being partly pervious, one side of the pond has been built of hewn masonry, laid with hydraulic cement. This is the best specimen of the kind we have ever examined. The best Kingston water-lime was used, and the sand was obtained from a locality where a flood or freshet had washed it perfectly clean, and not having been worn and rounded like beach sand, it was about as sharp and perfect as if rock crystal had been broken up into granules. The wall had stood four years exposed to water, rain, freezing, &c., and the cement remained perfect and uninjured—the trowel mark still remaining distinct on the most exposed parts. For this wall, the bathing-house, a large and long culvert for the escape of the surplus water, &c., six hundred cubic yards of masonry had been built. The pond contains about two thirds of an acre, is eight feet deep, and is fed by springs brought into it by underdrains. It is well supplied with fish.

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☞ It is with great regret that we receive tidings just as this number goes to press of the death of Dr. John A. Kennicot, at his residence near Chicago on the 4th inst. We have only space at present for this bare mention of an event which deprives the Horticulture of the West of one of its longest and most enthusiastic devotees.

At What Period of Maturity Should Wheat be Cut?

Numerous trials have been made in this country, but more particularly in England, to determine at what period of maturity wheat should be cut in order to obtain the largest quantity of grain, and of the best quality. The result of all these tests that have come under our observation, have led to the conclusion that when cut before the grain becomes hard, or while it is still in what is termed the doughy state, not only yields the greatest weight of grain, but that the quality of the flour made from it is whiter and better than that made from wheat that is permitted to stand until the grain becomes dry. Leaving out of view the quality of the flour, it may be questioned by some whether the grain that is cut at a period while it is still soft, is of itself, really heavier than it would have been had it been permitted to stand longer, or whether the loss in weight that has always been detected in these experiments in grain that is permitted to stand until it becomes dry in the head, is not owing to the actual loss of the grain occasioned by the various processes of handling. Upon this point we have never seen the opinion directly expressed. It is probable, however, that grain that is cut after, and during excessive dry, hot weather, does extract less weight from the rapidly drying straw than it would if cut and bound; in which condition it would be less exposed to all the drying influences of the weather—that the process of maturing is prolonged, and a greater weight of grain derived from the straw when cut and bound, than would have been obtained had the grain been allowed to stand exposed to the drying heat in the field.

We could quote the figures that have accompanied the various reports on the trials to test this question, but as the experiments have been so frequently made, and with such uniform results, we deem it sufficient at this time to state the simple facts.

A very careful series of experiments were made of this character, some years since, in Yorkshire, England, by Mr. John Hannam, and he sums up the loss by shelling, and in the *weight and quality* of the grain, from letting it stand until fully ripe, equal to $6 per acre, a sum or even half of it, which should not be lost sight of by the farmer.

Since the introduction of reaping machines, the wheat upon an ordinary sized farm may be cut within a reasonable time, and more generally at the period desired, which was not always the case when the reaping hook and the cradle were the implements depended on.

Upon the great western prairies where hundreds of acres of wheat are grown, upon a single farm, with a limited amount of labor at command, a new process of harvesting has within a few years been adopted. The grain is cut by what is termed "Heading machines." There are several kinds of these in operation, but all upon the same general principle. In cutting they leave the most of the straw upon the field. A wagon attends the cutter, into which the grain is delivered by the operation of an endless apron attached to the machine. The grain is immediately stacked from the wagon. With this process of harvesting, which economy of labor seems to render necessary, the grain of course must be so fully ripe as to prevent any injury arising from fermentation in the stack, but it must necessarily be attended with very serious loss, owing to the fully ripened condition of the grain. This fact, when labor becomes more abundant, may lead to the universal adoption of the ordinary reaping machine.

OATS.—This grain is more liable to serious loss in harvesting than wheat, and too many of our farmers commit the error of letting the crop become too ripe. Besides the loss of grain sustained in the process of harvesting, the quality of the straw for feeding to stock, whether cut up with the grain, or after it has been thrashed, is greatly impaired.

It is true, that oats when cut before fully ripe, require more care in curing, as well as more time than wheat. Oat straw makes an excellent feed for stock, and it is worthy the attention of every farmer to see that it is cured not only in the best time, but in the best manner.

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Conversation on Tree Management---II.

Watering Trees.

N. I want to ask you, Mr. P., about watering young trees. I verily believe I killed some of my cherry trees by watering them. I set out 30 young cherry trees, and by way of trial watered one-half of them occasionally. All the watered ones died but two. Of those not watered about two-thirds lived. Now I would like you to explain this strange result.

P. This is nothing new nor very uncommon. Three-fourths of all the young cherry trees which die after setting out, put out leaves first and make a fair promise of growing, but as soon as the heat of the summer comes, many of them wither and perish. The roots do not seem capable of bearing the heat of the soil. If the ground is mulched in time by a good coating of old straw, the surface will be kept cool and moist, and they will be sure to live. A mellow, cultivated surface will answer nearly the same purpose, unless the roots are near the surface. Allowing the ground to become hard will often result in the loss of a considerable number, especially if the sun be dry and hot. But if the surface is watered, it soon becomes baked hard, and heats like a stone in the sun; hence the death of the newly set trees is pretty sure to follow.

N. But is there no way of watering trees without hurting them? Suppose the mulching has not been given them, and we have a sudden heat with drouth, how shall we manage in such a case as that?

P. With good management watering is scarcely ever necessary.

N. But would you never give it in any case whatever, or if water is applied, how would be the best way?

P. There may be rare cases where watering would recover a withering tree if already in leaf, but in such a case it should not be merely dashed on the surface, as is commonly done—to dry up in a few hours, without ever reaching the roots. A man might as well pour water on the outside of his cowhide boots to quench his thirst. If watered at all, carefully remove the earth from over the roots, then pour on enough water to pass down well among them. Then replace the mellow earth. By this mode you will see that the roots get an abundant supply of water and the top is not crusted, but left mellow. The trouble is however that the water soon soaks away or is dried up, and the tree is as badly off as ever, unless the watering is often repeated. Good mellow cultivation is far better and generally obviates the resort to water.

N. I lately tried watering some pear trees that did not throw out leaf, but they would not grow at all, and after a while I examined the roots, and found them water-soaked and rotten. Perhaps I did not give them enough water—how is that?

P. O yes, you gave them enough and too much. You water-soaked the roots and killed them.

N. How do you make that out? Who ever heard of water hurting the roots of a tree?

P. It is necessary to discriminate—a tree in full leaf throws off a large quantity of water through the leaves, and may then have a good supply of water without being overcharged. But before the leaves come out, there is but little evaporation and very little circulation; hence the water found at the roots is merely sucked up by them like a sponge, and not carried off. This is the reason the roots become water soaked and rotten.

N. How is the best way to water young trees before the leaves are out? Suppose they happen to be somewhat shrivelled—I suppose there is no help for them then.

P. No, you can recover them without much difficulty. Always observe that the roots only want water when the leaves are expanded. Before that time, you must water the stem or bark, which throws off moisture but moderately. Throwing water over such trees a few times a day will often recover them in a short time; but a better way is to tie straw or grass loosely about them, and keep this wet. It is surprising how quickly such trees may be recovered by such management. If however young trees have become much withered it is better to bury them wholly in moist soil for a few days, which will make them plump.

WORM ON GRAPEVINES.

The small pale yellow worms, covered with fine white hairs, which W. R. Harrison sends us from West Haven, Conn., June 4th, as eating the young tender leaves at the extremity of the shoots of his grapevines, are the young of the White Miller, *Spilosoma Virginica.* These worms will feed and grow to a length of two inches, becoming then a thick bodied caterpillar, densely clothed with long soft pale yellow hairs, its skin straw colored, with a black stripe along each side. It is the most common large sized caterpillar which we have in our country, and occurs everywhere, feeding upon a variety of soft tender leaves, such as those of the bean, the convolvulus, &c.

The best thing Mr. H. can do for his grapevines, is to carefully look them over and pick off or knock to the ground every worm he can find, placing the sole of his boot upon each one of them in its turn. A. Fitch.

Protection of Cabbage Plants.

Messrs. Editors:—The mode of protecting cabbage plants from the cut worm quoted in your paper of June 11th, from the Maine Farmer, is one which I practiced at least fifteen years, and can recommend to be effectual except when rain should so dampen the paper that the worms can crawl over it.

Another mode which I also used for protecting young seedlings and found very efficient, was to stir recent cow dung in water and pour the mixture on the ground, while dung was suspended, around the plant in a circle of ten or twelve inches in diameter. The fluid at once sank into the ground and the solid parts remain on the surface making a sort of carpet through or over which the cut worm would not attempt to pass unless softened by rain as to make no impediment to their motion.

Either of these modes is adapted to kitchen gardens only, and would hardly be practiced in the case of large field crops. Yours, &c., J. M. W.

New Haven, June 12, 1863.

Gas Tar on Seed Corn in Bucks County, Pa.

I was induced by the several articles commendatory of the process, published by you this spring, to have gas tar tried upon my own farm. My farmer, a very intelligent person, being skeptical of the safety of coating the corn with an article so impervious to moisture as gas tar, was very careful to soak his corn thoroughly in warm water before applying the tar, so that the kernels should have within them the moisture necessary to start the germ.

He then applied the tar, using every precaution to put on a very slight coating, and using altogether *less* than a "*gill* to the bushel." Thus prepared, the corn was planted; but adjoining, to test its comparative value, about an acre of ground was planted with corn that had been treated with soot and saltpetre—that is, soaked in water, to which a small quantity of saltpetre and a liberal supply of soot had been added. This is a favorite remedy with us against birds, as well as for worms and grubs.

The corn soon began to show itself above ground. That treated with soot and saltpetre came through vigorously, looking strong and healthy, while the tarred corn came up feebly, and in many cases not at all. Upon examining the hills, we found that the kernels were still there. Some had perished without sprouting at all; others had partially rooted and then died, apparently from some deleterious influence exerted by the tar. This theory has its confirmation in the general appearance of the field, for to this hour the plants from the tarred corn exhibit a much feebler growth than those which had the benefit of soot and saltpetre alone.

Since this experience, I have made inquiry among my friends, and the general testimony of those who have tried gas tar corresponds with my own experiences.

One neighbor, however, who had thoroughly soaked his corn in manure-water, found, he says, no difficulty on the score of its coming up; but complained bitterly that the birds appeared to have a perfect contempt for his tar—taking up his corn by the rod. My own experience is that the birds did not disturb my field materially, not appearing to relish the tarred corn any better than that treated with soot and saltpetre.

My conclusion is, that at best it is a hazardous experiment to use gas tar for this purpose. I would also caution those who have no experience in the use of soot and saltpetre, to be careful in its application, as an excess of the latter will kill the germ. When skillfully applied, it is probably as good an application as can be made for the purpose. Half a pound of saltpetre to the bushel of corn, we consider a safe and sufficient quantity. Soot may be used *ad libitum*, as it does not appear to have any dangerous qualities. This preparation is not only disliked by the birds and grubs,—the soot imparting an acid, bitter taste to the corn,—but seems to have valuable manurial qualities in starting the plant, and thus hastening it forward out of the reach of these enemies. E. L.

Falls Township, Bucks Co., Pa.

THE MAY BEETLE.

The insect which Mr. L. Bailey, of Bailey's Cross Roads, Va., sends us May 24th, as destroying the leaves of his cherry trees after dark, is the May-beetle, *Lachnosterna fusca.* It is a very common insect all over our country, and almost every year we hear of it in one spot and another, as gathering in such numbers on the cherry and plum trees as to strip them of their leaves. The only remedy of any avail in such cases, is to spread sheets under the trees thus invaded and shake the insects off upon them, and gather them up quickly into a bag or covered pail, and kill them by pouring boiling water upon them, and then feeding them to the swine or poultry,—this to be followed up, night after night, till the trees are well rid of the scoundrels. A full account of this insect will be found in my Third Report on Noxious Insects, Trans. N. Y. State Agric. Soc. for 1856, pages 368-375.

June 2d. ASA FITCH.

THE BEST WAY TO USE BONES.

Eds. Co. Gent.—The "best possible way" to make bone phosphate, which J. M. A. inquires for in your paper of the 4th inst., and which you say you and many of your readers desire to know, is as follows:

Take one ton of ground bone (the finer ground the better,) and one-half an ox-cart load (¼ of a cord) of good friable soil, which will not break or cake by drying, and which is free from sods and stones, no matter how wet it may be when used. Place a layer of the soil and a layer of the bone, of about equal thickness, upon each other, (soil at the bottom) on the barn floor, or under cover in a shed or outbuilding, leaving a bushel or two of the soil to cover the heap when all the rest is put together. The heap will be 3 to 4 feet wide at the bottom, and about twice as long. In forty-eight hours it will be too hot to hold your hand in. Let it remain undisturbed until the heap begins to cool, which will be in a week to ten days. Then "throw over" the heap by "chopping it down" with a shovel and moving it "in end," thoroughly mixing the soil and bone. In a day or two it will heat again. Let it remain until it cools, or for eight or ten days; then throw it over in the same manner again. In a few days it will heat again, unless the previous fermentations have exhausted all the moisture in the soil and bone. Throw over each ten days until all the moisture is thus exhausted and it does not ferment any more; then it will be fit for use, and can be put away in old barrels, and it will be ready for use, without deterioration, for ten years.

All that is necessary to make bones operate as a manure, is decomposition—*rotting;* and to produce this process the bone only needs to be ground or broken fine, and to be subjected to moisture in warm weather with some substance that will absorb or retain the gases evolved during the process. Soil furnishes the essential requisites, and nothing more is needed to make bones an excellent and durable manure.

This is not a theoretical rule, merely. I have used many tons prepared in this manner during the last 12 to 15 years. I have tried it upon the same field, and side by side with the superphosphates of different manufacturers, and *always* saw the best and most permanent effects from the same weight of bone prepared in this manner, a ton of which costs, exclusive of the labor and soil, about half as much as a ton of superphosphate.

I do not wish to excite a war with the chemists, but I think their theory of the benefit bone derives by treatment with sulphuric acid is erroneous. The acid only aids the manurial qualities of the bone by the *mechanical* effect of subdividing it—making it finer. Its *chemical* effect is no better upon bone than it would be upon green horse-dung, and I would no sooner treat one than the other with oil of vitriol, with a view of adding to its *chemical* value as a manure.

I want to say further, that before treating bones in this manner, I tried several methods recommended by the farming newspapers without much satisfaction. I mixed half a ton of ground bones with 20 bushels of leached ashes, and half a ton with 12 bushels of unleached ashes, and the workmen could not open their eyes in the barn next morning until the doors and windows had been open long enough to let the *ammonia* out! As soon as I saw the effect of this process, I sent for a load or two of spent tan to mix with it; and thus saved a part of the ammonia, but the effect of this compost was not very striking.

I next mixed a ton of bone with wet yellow sand—a material about half-way between sharp sand and loam. This fermented finely, but it smelt so bad, and was so nasty, that I had to pay an exorbitant price to get it applied to the land. It had a good effect however.

I then mixed a ton of bone with a ton of ground plaster. I found the plaster was wholly incapable of keeping down the carrion smell, or of absorbing the manure given out in the form of gases. Water had to be added to this heap to support the fermentation, and the plaster dried hard and in lumps, and did not seem to participate in the fermentive process as the soil does. This did not have so good an effect as the bone and sand; and none of these compounds was equal to that prepared with soil.

I will also add that the newest bone is the best. The old dry bones which are collected after exposure to the weather for years, have lost much of their virtue, and will not heat so soon nor so much as those which have not lost their gelatine in that manner.

Ipswich, Mass., June 12, 1863. GEORGE HASKELL.

CATTLE IN THE HIGHWAY.

From the early settlement of Massachusetts, there has been a statute restricting the running at large of cattle, sheep, horses and hogs, but by a provision of the law, it was left optional for towns in their legal meetings for business, to pass by-laws, allowing them to run under certain restrictions. For instance, swine must be yoked and have rings in their snouts, the latter to prevent their rooting. Horses must be fettered, and so on.

The result of this state of things can easily be imagined. In the first place, an incredible amount of fence must be maintained to protect cultivated crops from the depredations of these street marauders, and, as running at large has the effect to make all animals unruly, this fence must be of a very substantial character to allow the farmer to sleep quietly and awake with the assurance that his labor-earned corn and grain were not in process of destruction. The consequence was, the streets were filled with all kinds of animals. Haggard looking cows, ready to run through any gate or bars the farmer might have down for a moment's convenience. Lean kine these, the direct descendents of Pharoahs, it did not require a large break to give them ingress to the farmer's territory. Besides they were an annoyance to all passers by. Nervous matrons and sensitive young ladies were in constant danger of being gored by wild beasts, and little children, on the way to school, must scud off and climb the nearest fence for very life's sake. Wherever there was a run of water crossing the highway, these herds were sure to meet in daily congregation, and if shade trees were standing so as to spread over any part of the thoroughfare, under their shadows the long hours of the warm day's nooning was sure to be spent, no matter how near it might have been to your domicil—if sheltering your front gate so much the better. The condition of things under such trees after the departure of animals, is so naturally anticipated that it needs no description.

As the result of this state of things, but very few shade trees were planted by the wayside, and of those very few lived, for the fresh earth at their roots was pawed over by animals who rubbed against their trunks and shook them with their horns until life was shaken out of them.

Of course when animals were allowed indiscriminate pasturage in the highway, a portion of these representatives of this unfortunate state of things must be of the swinish multitude, who sought no better employment than rooting up the sods and disfiguring it in every way their hoggish propensities dictated. The people had more pride than to fully imitate them, yet it was no uncommon thing to see large spots plowed up for repair of roads, which were allowed to remain in coarse furrows for the swine to root among. These patches, plowed by swine, readily became the territory of foul weeds; and thistles, dock, nettles and tall rank milk weeds completed the stock of street ornaments.

By our Massachusetts revised statutes of 1836, the law prohibiting all animals from running at large in highways, without keepers, was made very explicit. The right of towns to set aside the general statutes, by adopting by-laws was annulled. Towns were obliged to choose field drivers, and a penalty annexed for refusing or neglecting to do so, and the field drivers were sworn to a *faithful performance of their duty*, which was and is to take up all animals, such as neat cattle, horses, sheep and swine found going at large without keepers, and impound them in the town pound.

As long as the streets had been used for universal pasturage, and inasmuch as many, among whom were thrifty farmers, had placed large dependence upon them for that purpose, it is not strange that many in the outset, *rebelled* and showed violent opposition to the enforcement of the law, but the number and influence of such was small in proportion with the whole, so the opposition eventually died out.

The effect of the law has been excellent in all its particulars. Teams and foot passengers now find the streets clear, so there is no danger of horses being frightened or people gored. In repairing roads, great care is used to plow no more than is necessary for the purpose, and the ground is left so smooth and fine that grass soon sods it over. We have few weeds in our highways now, but on each side of the travel path are rich ribbons of green; tree planting has received a new impulse, and fine rows are springing up over the State. In fact, this excluding animals from the streets, so far as comfort and good looks are concerned, is one of the great improvements of the age, and shows a decided progress in civilization and refinement, wherever it is practiced.

Whom do the Highways Belong to?

This was a question considerably discussed in a few circles, when the law prohibiting animals from running therein was first enforced. Some pretended to believe that they belonged to the town or county where they were located, and that each individual had a right to use them for pasturage. This brought up another point, not quite so agreeable. If towns or counties *owned* the highways, they would readily be required to make and maintain one-half of all the fences on the lines thereof, which would make a heavy and perpetual tax on the community, and be a great relief to individuals. But the common law of England, of some four hundred years' standing, settles this matter very justly, where it says, "The king himself, has no right to the highway except for purposes of travel and repairs,—that the trees and stones except such as are needed for repairs, with all other minerals, and the grass, belongs to him through whose land the way passes."

Consequently then, highways belong to those from whose lands they are taken, for all purposes except travel and the right to keep them in repair, and any person has as good a right, by common law, to turn his animals into his neighbor's fields to feed, as he has to turn them into the highway adjoining those fields.

Taking all the particulars into consideration, the wonder is that this universal road-pasturing has ever been tolerated at all. That it is tolerated now, in any section of country, is still more wonderful, and must be owing to the fact that those who do tolerate it are ignorant of the advantages that arise from the enforcement of a law whose effects must be admired by all who see its beautiful operation. WILLIAM BACON.

Richmond, Mass., June 6, 1833.

REMEDY FOR KICKING COWS.

EDS. CO. GENT.—I have noticed several pieces in the Co. GENT. and N. E. Farmer, lately, in regard to "kicking cows—their cause and cure"—some of which were *affecting* to a Yankee's risibles, if not *effective* of the desired end. Of the various methods of cure, I wish to notice but the one "*cutting the tail off* close behind the ears." Perhaps in many cases that is advisable, but when the cow is an *extra one*, by all means *spare the tail*. Last November I bought a "kicking cow," black as a coal, as homely as Lear, and to strangers appeared a "real tiger." The owner, a farmer 40 years old, said she would make more butter in a year than any other one he ever had, and he offered her for sale solely because her heels were too light for her body, and as he depended on hired help entirely to do his milking, he would'nt *bother* with her any longer. I paid him $16 for her, which was her value to fat for beef. I milked her three times—the fourth time she pushed the bottom of my pail out; but as I am a peaceable man, I made no words with her, thinking that as she was six years old, she had probably heard as strong arguments in her youth as any I could offer. Instead of words or blows, or trying to "catch her foot," or quieting her by letting her "sit in my lap," &c., I set up firmly a strong plank close behind her, having a two inch hole in the lower end; put a ring in the post of the stable, some three feet farther back; took the hitching strap from a halter, put it through the hole in the plank, and buckled it to her right hind ankle; having first taken up one fore leg and buckled a strap around it, so that she would be obliged to allow me to put the strap to her hind leg. I then put the other end of the strap through the ring, and drawing it *taut*, buckled it—then let down her fore leg and bid her *kick if she dared*, and sat down and finished milking. After a few efforts, she saw it was useless to try, and gave up. In two or three days she learned to let me put the strap on her ankle quietly, without raising her foreleg, and she has had it on every milking since, and proves to be a very valuable cow, worth to-day $45. It does not take a fourth part of a minute to put on and take off the strap, and I set the pail under her and milk with perfect impunity, while she actually appears to *like to be milked*, without being in fear of a *scrape*. I milked her to within three weeks of calving, when she gave two quarts per day—now gives eighteen to twenty-two quarts, and *very rich* at that.

To any one who has a *first rate* "kicking cow," and can conveniently turn her into a stable to milk, I say *go and do likewise*. Don't "fret and stew," scold and maul the innocent cow, because her bag is as ticklish as some children's necks! An *extra cow* is worth saving at *so little* extra trouble as mine costs me. After a year or two, and perhaps less, I think she will forget that she ever *could kick*, and the strap may be left off; but if not I care but little. A *staple and ring* in the stable floor might be better, where several kickers are milked side by side, than the upright plank. BON' LAC.

Randolph, Vt., June 5, 1863.

A LARGE LOCUST TREE.

EDS. CO. GENT.—The largest Locust tree in this town, if not in the county and State, was cut down a few days ago in the garden of Mrs. Wells in this village. It was 65 feet in height, some of the upper limbs having previously decayed and fallen. At 5 feet from the ground the circumference of the tree was 7 feet 9 inches—at 32 feet from the ground the circumference was 5 feet. The best part of the trunk was cut in one log, thirty feet long, and measuring in the middle 6 feet and 4 inches in circumference after the bark was removed. This makes the contents of the log about 90 cubic feet, worth in New-York about $1.25 per foot, say $112 for the log. The trunk was perfectly sound. The stump showed 75 concentric rings, indicating that the tree commenced its existence about the year 1788.

Yonkers, June 10, 1863. THOMAS C. CORNELL.

GAPES IN CHICKENS.

MESSRS. EDITORS—I notice on page 383, vol. 21, that gapes in chickens are attributed to lice, which is much at variance with the experience of this establishment. Lice or no lice, gapes have invariably been the cause of death to many with us, when they were given *wet feed*, bread soaked in milk or water; and when dry bread crumbed and screenings, etc., were given, the bill of mortality has been extremely small from any cause, and none from gapes. That lice are far from desirable, I agree; but how a louse of any description can be changed into a worm, is beyond my comprehension, and well may the writer add—"In this opinion I may be mistaken." J. PIERCE BELL. *Elm Grove, June* 15, 1863.

CONSTRUCTION OF FARM CARTS.

Messrs. Editors—As the time for using carts has arrived, allow me to send you two drawings of four wheeled carts which I will try to explain as clearly as I can. I will take the cart shown in fig. 1 first. The appearance will explain the side. The tongue is fastened to the hind axle with irons like those shown in fig. 2. Each hind end of the tongue is inserted in the iron *a*, and bolted with two bolts, and two eye bolts. The irons shown at *b*, are put through the axle the width of the iron *a* apart and secured with nuts. Then a bolt is put through the eyes in *a* and *b*, for the cart to tip on. The axle bolted to the cart's body. Fig. 3 shows the tongue of this cart; *c* is the hind axle, *d* the rocker iron. The tongue rests on the forward axle without a rocker, simply an iron bolted to the tongue; *e*, sides of the tongue; *f*, irons which fasten the tongue to the axle. Distances between the axles 4 feet 6 inches. The tongue is made of white oak 2 by 4 inches, or larger, according to the size of the cart. The length of each of the two pieces of which the tongue is made are 5 feet 6 inches. The hind ends of the tongue where they are fastened to the axle are 3 feet 2 inches apart and the forward ends of the tongue meet in a point. The rocker iron is bolted across the tongue 9 inches from the point. The axles are of the usual length.

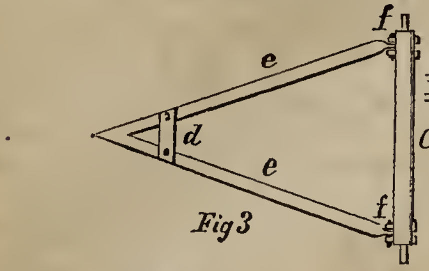


Fig 3

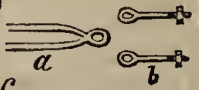


Fig 2.

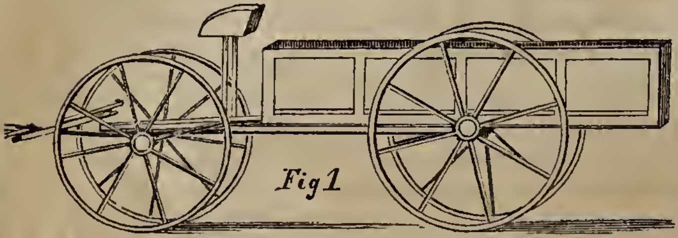


Fig 1

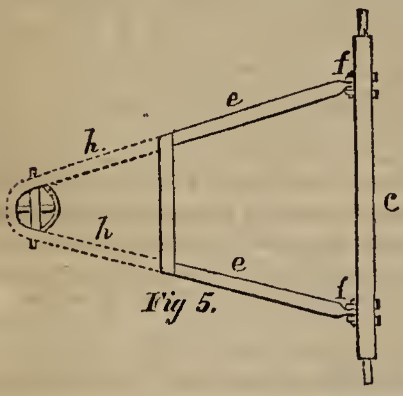


Fig 5.

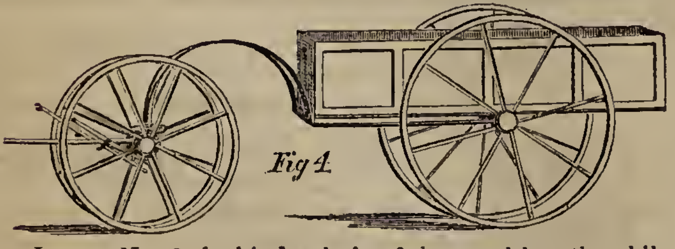
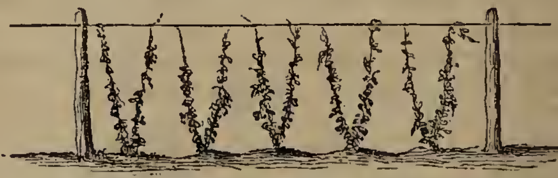


Fig 4.

In cart No. 2 the hind axle is of the usual length, while the forward axle is but 36 inches from the outside of the hubs. The tongue of the cart No. 2 shown in fig. 4, is made of white oak as far as the front of the cart body from there to the forward axle it is of two curved irons, (see dotted lines in the tongue fig. 5.) The curved irons are 2 by 1 inch, curved high enough so the forward wheels will turn under them, similar to the wheels of a coach. The forward axle is half the length of it, with 2 or 3 inches to clear, which equals 20 or 21 inches or more, according to the size of the wheels forward of the cart-body.

I use a cart like No. 1, which is the simplest and cheapest. I take the wheels off my wagon and fasten them on my cart. Most any farmer with ingenuity enough can make the tongue, and look in the box of "old iron" if he has one, and may find part iron enough, and get the rest at a blacksmith's and have it fitted; then he will have a cart that he can use. A great advantage in using a four-wheeled cart is, that it relieves the horse of a heavy load from his back. A two-wheeled cart slats a horse very much if the load is heavy or the road rough, while a cart with four wheels does not. If you are shovelling out of a cart, or manuring in the hill, the load bears harder on the horse's back after about half is unloaded, than it does with a whole load in a two-wheeled cart; but in a four-wheeled cart it does not bear on the horse's back any, but on both axles. I should rather have one of these carts than one with two wheels. D. D.

Fall River, Mass.

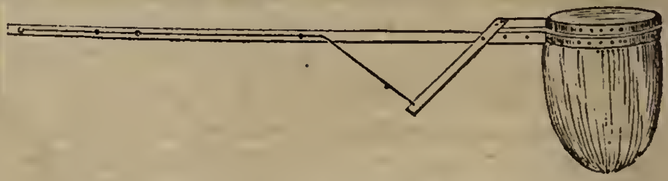


MODE OF TRAINING LIMA BEANS.

W. A. Underhill of Croton Point, North river, has adopted a mode of training the Lima bean, which is exhibited in the accompanying figure, and which he thinks possesses some important advantages over the common mode of training on poles. A strong wire is stretched from the tops of posts placed at a distance from each other; and to this wire two diverging cords from each hill of beans are attached. This mode gives more complete exposure to air and sun, affords larger crops and has a neater and more finished appearance than the usual way of training.

A FRUIT PICKER.

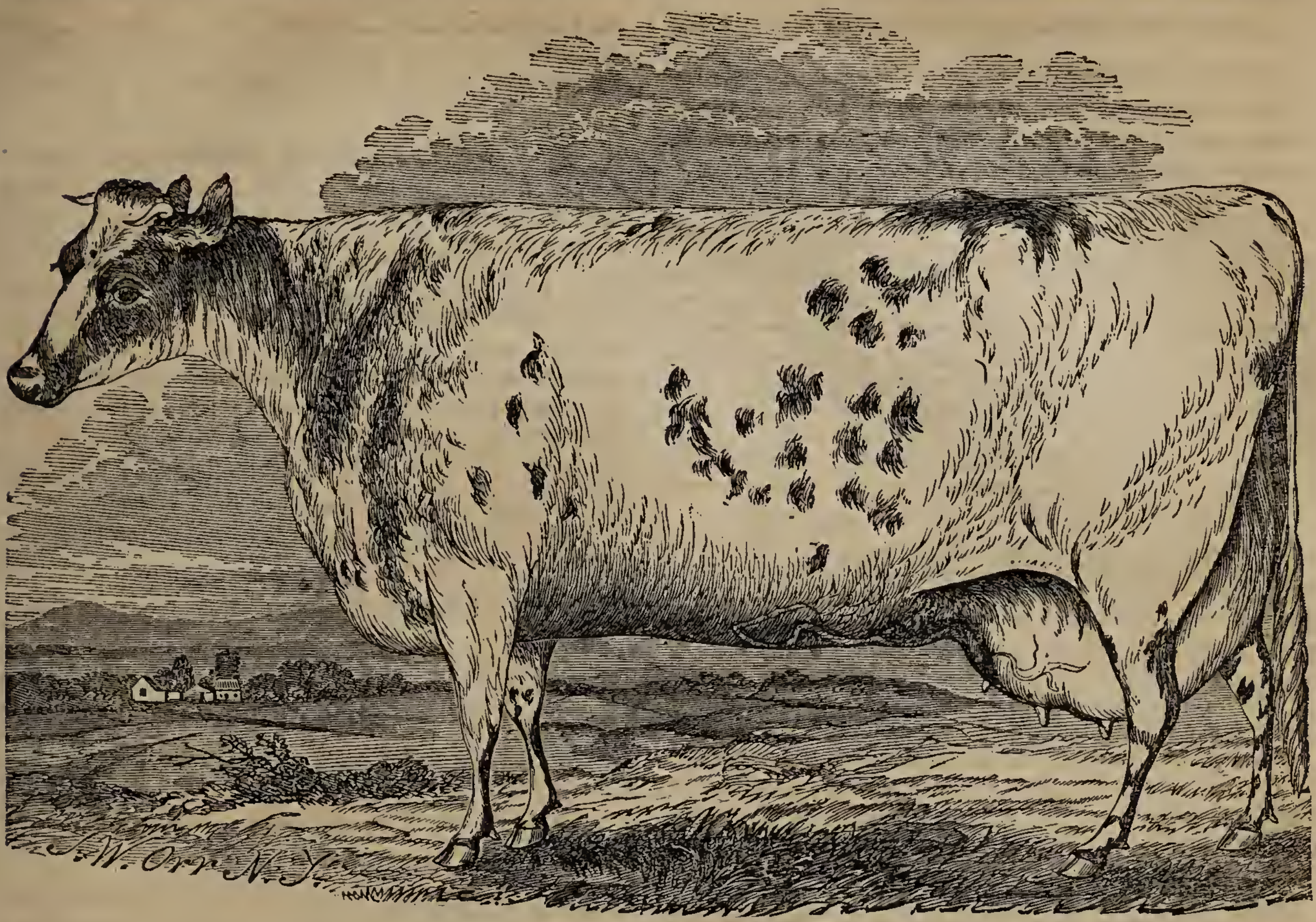
Messrs. Editors—Here is a drawing of a fruit picker which I made a few years since, and having used it a considerable time I find it very useful in gathering the fruit on the outer limbs. It is made of 1 inch hoop iron, and about 4 inches in diameter, with holes punched all around for sewing on the bag and lid cover.



The handle is about 1 inch square, and six or seven feet long. The lid is worked by means of a wire, the size of a pail bail, running down the handle, and held in place by 3 or 4 staples which should not be so small. The wire is bent into a circle at the lower end, and another a little farther up, to serve for a handle to work it by.

The bag should be of cloth, and large enough to hold about 4 quarts. Nathan Sherman. *Waverly, Pa.*

Large Strawberries.—The committee of the Massachusetts Horticultural Society, in their last report, give the following weights of single specimens of some of the new strawberries: Six berries of the Triomphe de Gand weighed 3 1-20 ounces; six of the Imperatrice Eugenie, 4½ ounces; six of La Constante, 4 1-16 ounces, and six of Admiral Dundas, 4⅝ ounces.



Ayrshire Cow "White Lily"---the Property of Samuel Campbell, Esq., New-York Mills, N. Y.
[*See notice of Mr. Campbell's Herd on page* 240.]

AGRICULTURAL MACHINES.

The value of agricultural machinery at the present day, to the farmer in particular, and to the country, and we might say to the world in general, can hardly be estimated. Had our farmers to depend alone upon the simple implements of husbandry in use thirty years ago, instead of having millions of bushels of grain, and hundreds of millions of pounds of pork for export to other countries, they would hardly be able to produce a supply for our own country. Now, one man with the mowing machine, the reaping machine, or the horse rake, will accomplish as much labor in a day as ten men could with the hand implements of former times. Previous to the breaking out of the present rebellion, the crops grown were fully equal to the capacity of the whole farming force of the country to secure, and now when a large proportion of the effective strength of the rural districts is called to the battle field, our crops would go unharvested but for the introduction of the modern labor-saving machines. We are informed that such is the increasing demand the present year, for harvesting machines in the great West, that the manufacturers cannot fully supply them.

It is probable that portions of many of the farms in the New-England States formerly devoted to hay and grain, that are not adapted to the use of machines, will be transferred to pasturage. Such lands can hardly compete with the unbroken fields of the West, in the production of grain. H.

☞ The Oswego Co. Ag. Society will hold its Annual Fair for 1863, on the Society's grounds in the village of Mexico, on the 22d, 23d, and 24th days of September next. By order, J. R. French, *Sec'ry.*

VENTILATING HAY-MOWS.

Ventilating large bodies of hay is not often practiced, and results in mow-heat hay, when it is not thoroughly cured. In the summer of 1861, I filled a bay thirty-four by twenty-two feet, and eighteen feet high; as I supposed, *well cured.* Soon after it was filled, I had occasion to visit the mow, and found that a large amount of steam or vapor was rising from the hay. I took a hay-knife and cut two round holes four feet in diameter and five feet deep, which when done had the appearance of an escape-pipe from a steam-boiler. The work of cutting was a good steam-bath. The heat subsided in a few days, and the hay came out bright.

Last year I constructed a ventilator in the same bay, of four scantling, with rounds two and a half feet long and fifteen inches apart, and placed it in centre of the bay, over a hole in the floor connecting with the air outside. It is in fact a four-sided ladder. I saw no signs of steam on the mow after it was filled. Hiram Walker.

Mexico, July 4th, 1863.

A HELP TOWARDS FENCING.

Those new kind of cattle stables given some time ago in your publications, which, on account of their being elevated, prevented cattle outside from hooking those in their stalls, suggested to my mind that the same principle might be applied to fence building. I have seen a fence that has stood the test of years on the public highway, made only of a ridge of earth with posts put in it, capped with a 2 by 4 inch piece, and a board under it. The ridge was so steep and high swine could not disturb it only at the base, and coated with grass the frost did not injure it as one would imagine—especially with a high ridge, would not many hedge plants answer well that would not otherwise—the hemlock, red cedar, barberry, and buckthorn?

Seneca County, N. Y. HENRY VOORHEES.

Fruit Growers' Meeting of Western New-York.

The Summer Meeting of the Fruit Growers' Association of Western New-York, was held at the Court House in Rochester, on the 24th of June—the President, S. H. Ainsworth in the chair.

Russel's Seedling Strawberry.

We noticed on the table, an exceedingly fine display of Russel's Seedling Strawberry, exhibited by Mr. Schuyler of Seneca Falls. They were of enormous size, some measuring 6¾ inches in circumference. They were all of large size, and a single plant exhibited in a box, dug from the ground the day before, had on fully 2 quarts of ripe and ripening berries, the finest display for one plant we ever saw. This plant was four years old, and had borne considerable many young plants.

Mr. Schuyler said it was raised from seed 8 years ago, from McAvoy's Superior and Longworth's Prolific. The seeds were from the McAvoy. The original plant is bearing full this year. Much of the fruit on exhibition was raised on plants planted on the 19th last Oct., without any covering in the winter. They appeared strong in the spring. Mr. Russel's plants are now a sight to behold—he could not find language to express the prolificness of them. He cultivated deeply. Specimens raised from plants planted last Oct., were from 6¼ to 6¾ inches in circumference.

Discussion on Strawberries.

The meeting took up for consideration the first question—"What is the most profitable strawberry for market?"

Mr. Langworthy would recommend the Wilson's Seedling, Triomphe de Gand and Early Scarlet—would also recommend Early Scarlett as the best one variety for market.

H. E. Hooker would think the Wilson's the best, as it brings about as good a price, and far more quarts to the acre.

M. B. Bateham, Ohio, visited a large strawberry plantation recently, of 15 acres, near Cincinnati. He only had two sorts, Wilson's and Triomphe de Gand, and thought strongly of throwing out all but the Wilson. He could raise it twice as easy as any other sort. The flavor was good when ripe. In some parts of Ohio they are using the Iowa and Jenny Lind for early sorts.

C. Downing, Newburgh—The Russel Prolific, from a visit just made to the beds, is certainly the most productive large strawberry I ever saw—thinks it highly probable it will prove very valuable.

C. Hooker has large plantations of strawberries, and has discarded all but Wilson's and a few Early Scarlet.

C. Hoag, Lockport, only uses Wilson's—all other sorts not worthy to cultivate. The Downer's Seedling is next in productiveness to the Wilson, and deemed the best flavor. The Fillmore produces well and promises well.

P. Barry would be in favor of the Wilson. Nothing will produce like it, or sell as well. Although poorer in quality, people will give twice as much as they will for better though smaller varieties. If the Russel should prove firm enough to carry to market, it looks as though it would exceed the Wilson. The promise is certainly very good.

R. Schuyler thinks the Russel will be firm enough to carry very well indeed—has carried them to market 50 or 60 miles successfully. One peculiarity is, the last berries are large. Thinks its productiveness is greater than the Wilson.

G. Clapp took last year to New-York, a half bushel in two baskets, and he only threw out four berries. He says, although it looks like a pistillate variety, it will bear well alone.

R. Schuyler said he had taken isolated plants, and protected them from the bees, and found that they bore well.

Mr. Langworthy said for one he was disposed to think this Russel Seedling a very valuable berry—as large as a potato, early, productive, and very fine flavor—much superior to the Wilson.

Question—Which are the four most desirable varieties for general cultivation, including early, medium and late ripening sorts?

C. Downing—On his soil, would like Jenny Lind, Longworth's Prolific, Russel's Prolific, and Triomphe de Gand.

M. B. Bateham—For Ohio would say Jenny Lind, Triomphe de Gand, Wilson, and Longworth's Prolific.

R. Schuyler would say McAvoy's Superior, Longworth's Prolific, Russel's Prolific, and Jenny Lind.

W. Smith—Triomphe de Gand, Wilson, Jenny Lind, and Hooker.

Dr. Sylvester—Jenny Lind, Hooker, Wilson, and Triomphe de Gand; if designed for market, should leave out the Hooker.

P. Barry would select for his own use, the Early Scarlet, Hovey's Seedling, Longworth's Prolific, and Triomphe de Gand. Among the new strawberries, Russel's Prolific and La Comptesse.

Question—What is the best method of cultivating the Strawberry?

H. E. Hooker would take plants in April or 1st of May, and land not previously used for strawberry—plant in rows four feet apart, and one foot in the row—keep the ground between the rows clear with a horse and hoe until the runners commence running, when the runners should be arranged evenly over the ground. They will fill all but about two feet in the middle of the rows. The next year they will be clean and beautiful, when he would let them bear—after having borne, he would plow them up.

H. N. Langworthy has raised the best berries in hills 2 or 3 feet apart, keeping off the runners, and the ground clean. The plants become enlarged very much.

Mr. Moody agrees with Hooker that we should only attempt to raise one crop. The fruit next year will be much smaller.

E. W. Herendeen said that the Triomphe de Gand would not bear well unless the runners were kept off. Had seen rows side by side, when those which had the runners kept off had on two or three times as much fruit as those which were allowed to grow.

P. Barry said it was difficult to give good cultivation unless the plants were kept in hills.

M. B. Bateham—We believe in doing things as easily and cheaply as we can and produce the desired results. Plant in rows 3 or 3½ feet apart, and 10 or 12 inches in the row—kept clean by a horse—allow them to bear two crops. In rainy seasons the plants are large and smooth and productive. Yet the fruit is of poor quality. When we have dry seasons the fruit is much better. As much sun and air as is possible, is necessary to have them grow.

Protection of Currant Bushes from the Currant Worm.

Question.—Which is the best method of preserving currants from the ravages of the saw-fly or currant worm?

It was stated by several members that the most easily applied and effectual manner of preventing the currant worm was the free use of air slaked lime, applied when the dew was upon the bushes, and repeated whenever it became necessary.

The Best Blackberries.

Question.—Which are the most desirable varieties for general cultivation?

The President said he had visited the plantation of Dr. Miner. He has a kind of running sort, which he ties to stakes—free from thorns, and grow from the ends, striking roots similar to the Black Raspberry—as large as the average New Rochelle, qualities very good—better than any other sort. It is very productive, presenting, when ripe, an almost black appearance.

This fruit was also highly recommended by others who had visited the plantation.

Cultivation of the Raspberry.

Question.—Which is the best method of cultivating the raspberry?

C. Downing would plant about 4 feet apart each way, allowing 3 or four canes to each hill—tied to stakes in the spring. After bearing, the old canes should all be taken out and the stakes removed to the house—in winter they should be buried.

NORTHERN AND SOUTHERN CAVALRY.

Eds. Co. Gent.—We are often told by writers in the newspapers, and by people in conversation, that the horses in the Southern cavalry are superior to those in our army—also that the south during many years has paid particular attention to the raising of horses adapted to the race, while on the contrary at the north such horses have been neglected, and trotting horses, or else large animals for agricultural use have been preferred. True in part, but the annals of the turf show that northern horses have beat the southern, even in speed as well as trotting, and they certainly are their equal, if not more than equal, in their power of endurance. Indeed this was all admitted at the south previous to the rebellion. If they wanted to improve their stock of horses, they sent north for the material; if a wealthy planter wished nice, elegant horses for carriage or family use, he went or sent north to buy them. Indeed comparatively few horses were raised in the slave States, excepting Virginia, Kentucky, Missouri, Tennessee and Texas.

A wealthy Texan who is a brother of the present Governor of that State, told me that he had spent the summer of 1859 at the North, for the purpose of selecting the best breed or blood of horses and cattle, to improve the stock of his own State. He visited the best reputed stock owners in the North, including the States of Virginia and Kentucky, and attended several State fairs, devoting six months of time to the object he had in view, which was to obtain the very best. He finally selected some Morgan horses from Vermont or New-York, and I believe a few other horses from the same States, and some cattle from Kentucky. Doubtless many inferior horses have been bought and accepted for the government by dishonest or incompetent contractors. An inspector told me that he was offered $500 extra by an agent if he would accept an entire lot of 500 horses which said agent had bought for the government. The inspector refused the bribe, and rejected 200 of the horses.

Notwithstanding all this, the chief reason of the superiority of the horses in the southern service is, that they are generally *owned by their riders*, and in cases where they are not thus backed, their owners are in the same company or regiment, to see that their horses are rode *carefully*, and that they are well fed, and cleaned at night and before mounting, that the blankets are evenly and smoothly fixed beneath the saddles, so as not to hurt the back of the horse. Let these important items to the comfort and well being of the horse be *properly done*, and there are comparatively few horses which will not do every needed army service, and keep in good conditon.

At the South, riding and traveling on horseback is, or lately was, much in vogue, and more especially in all the region not intersected by railroads; but they rarely urge the horse to a greater speed than a fast walk, or a moderate pace, the last being preferred and considered the easiest. Thus moving they will average from thirty to forty miles per day for weeks, and even months in succession, with little or no damage to the horse. If I remember right, our cavalry have not averaged such a speed in any of their raids. If the reported scarcity of grain and forage at the South be true, it is probable that their cavalry will be less efficient this year than last, unless they succeed in obtaining supplies from the Northern States, which they are now attempting.

Let us see how the horses in the army of the Potomac are used generally; of course there are exceptions, but I believe them to be comparatively few. Uncle Sam owns the horses, and uncle Sam's boys, old and young, officers, surgeons, privates and contrabands, think that he is rich enough to buy them all another horse whenever required. So they gallop up hill and down hill, and very often this gallop is increased to a run, as I have witnessed at Aquia, through the sands of the Potomac, or over the hills in that vicinity. Even in the city of Washington, persons have been in danger of being over run by these fast riders. I remember once last winter to have seen two ladies thus imperilled by a horse spurred at a run by a soldier. The shrieks of the ladies stopped the horse, and as soon as they had escaped, he was spurred onward at his former speed, his rider being apparently angry at the check which his momentum had received, which threw him on the neck of the horse, and nearly into the street.

When I first arrived at Washington, several months ago, I supposed those fast men on horseback were bearers of important dispatches, and that some great military movements were in progress, but all remained quiet in the army, and I soon learned that this go-ahead-ativeness on horseback was a mere army custom.

It is this unnecessary fast riding, and the want of proper care when the horse is unsaddled, which has killed and disabled thousands of horses in the Army of the Potomac. As a proof that this is so, take the example of the 3d Indiana cavalry, whose men *own* their horses, and consequently feel a personal interest in having them well fed and properly cared for, nor do they without reason, ride on a gallop or a run on every frivolous occasion. Their horses are now in as good condition, with very few exceptions, as when they entered the service, nearly two years ago. I was recently told by an intelligent private of this regiment, that their dead and disabled horses amounted to less than fifty, besides which a small number (about 20) had been captured by the rebels. There is, I believe, but one other regiment in the United States service, where the ownership of the horses is vested in their riders, and this is from Pennsylvania.

Every large owner of horses, and all livery stable men know the treatment which their horses generally receive from those to whom they are entrusted for use even for a short time, and Uncle Sam's horses fare much worse, because the old gentleman is rich and easy, nor does he even force payment from those who kill his horses by sheer abuse. To the horse race, including the mule, he is a hard master, for he permits them to be killed by hard usuage and neglect by thousands. Their carcasses abound and taint the air of all places occupied by our armies. A gentleman connected with Buford's brigade told me on the 12th inst. that there were 1,101 dismounted men belonging to it at Dumfries, in Virginia, waiting for a fresh supply of horses, in order to move. Yes, we had thousands of men belonging to the cavalry without horses at the very time when the rebel cavalry was entering Maryland and Pennsylvania on the raid now progressing.

June 18, 1863. S. B. BUCKLEY.

☞ Our correspondent, Suel Foster, Muscatine, Iowa, sends us samples of Wool from the flock of Hon. J. B. Grinnel, including specimens from a ram which sheared 15 lbs., and a ewe which sheared 12 lbs.

Connecticut Rye.—A field of rye in Simsbury, Ct., is said to average 7 feet in height, and several stalks from it, left at the Hartford Courant Office, are 7 ft. 7 in. long.

Farming, etc., at the Utica Lunatic Asylum.

In recently visiting this institution we obtained a number of interesting facts, which may perhaps possess some value for the agricultural reader.

By extensive draining and good management in other respects, the products of the farm and garden are constantly on the increase. As hemlock boards have been obtainable at $8 per 1,000, or $9 if cut in strips as required in practice, a style of draining similar to that already described as formerly in vogue in New-Jersey, is the one that has been chiefly followed here—viz., a bottom board 12 inches wide, on which rest the two strips nailed together at a right angle, respectively 4 and 5 inches in width. These drains are at intervals of 30 feet, and at a depth of about 30 inches. Rubble stone are filled in along the sides of the drain upon the edges of the bottom board, with the view of retaining a passage for the water if that within the drain becomes accidentally closed. Considerable tile draining has also been done.

The stock kept on the farm has been gradually increased from six horses, fifteen cows, and eighteen store-hogs (together with fattening 9,000 lbs. pork) in 1849,—to eight horses, two yoke of oxen, thirty-three cows, one bull, one calf, and one hundred and three hogs, (together with fattening pork to value of $1,005—number of lbs. not stated) in 1862. The value of the products of the farm and garden was estimated in 1851 at $2,000, and is given in detail for 1852 at $3,197.92. In 1862 it aggregated:

Vegetable products,	$5,358.57
Milk, 97,320 quarts at 3 cents,	2,919.60
Pigs and pork sold or consumed, less cost of feed purchased,	1,150.18
	$9,428.35

Or, omitting the Pig and Milk accounts, as we are not quite sure that they are included in the statement for 1852, the value of vegetable products last year was $5,358 against $3,197 ten years before—being an increase of over two-thirds. The products in the live stock department were doubtless increased in an equal proportion. If every farmer could show as good progress, the government receipts from the income tax would probably be larger than they are.

The question of the average yield of milk per year in a dairy, to each cow kept, has been often mooted, and may perhaps receive some light from the following figures:

1858—23	cows yielded	63,578	quarts—average	per cow,		2,764	quarts.
1859—23	do.	61,921	do.	do.	do.	2,692	do.
1860—31	do.	70,279	do.	do.	do.	2,267	do.
1861—30	do.	72,140	do.	do.	do.	2,405	do.
1862—33	do.	97,320	do.	do.	do.	2,949	do.

To arrive at these averages, however, we take the *whole number of cows kept*, not the average number in milk. Thus at the time of our visit in June, there were 28 cows on the place, but only 21 of them in milk.

It will be observed that the average yield of milk per cow was raised in 1862, more than 500 quarts upon the preceding year, and fully 400 quarts upon the average of the four previous years included in the steward's records. This large increase is explained in the following paragraph from the report of the Superintendent, Dr. John P. Gray, for the year 1862:

"For a year past we have cooked by steam the feed for the cows, which has added largely to the quantity and quality of the milk. Experiments have demonstrated that we thus increase the quantity of milk about six gallons per day, enrich it in quality, and without adding to the amount or character of food, keep the cows in better condition than formerly."

The system now adopted which is producing so good results, is in fact almost purely one of soiling. The 21 cows then in milk, gave June 23d, a total of 304 quarts, for the day, and four of them came in as long ago as September last, and the rest at intermediate periods. They have a small bit of pasture in which they run during the day, but the main dependance is on cut feed. They are salted at the stable three times a week, and curried enough to keep them clean.

The system of winter management is as follows: At about 5 A. M. hay is distributed to them; the stable is then cleaned out. Water warmed by the steam engine of the establishment is brought to the barn, with which the udder is washed previous to milking. They are then milked, and, after breakfast, receive a little more hay. The steamed food, which forms the next meal, is thus prepared: there are two sheet-iron cans, each containing perhaps 20 bushels; they are filled with roots, scraped to remove the dirt adhering to them, and covered on top with 3 or 4 inches deep of meal, the whole depth of the can being 5 feet. Waste steam is admitted at the bottom, and the cooking process continued about 4 hours, or perhaps from 3½ to 4 or 5 hours, the latter if the steam is low. By this time the whole is thoroughly cooked into a pulpy mass. It is then taken out and put into a box on truck wheels, in which it is mixed with about one-third its bulk of middlings and shorts. The shorts are in the proportion of twice the quantity of middlings. After mixing, three-quarters of a bushel of the whole is given per head. The main dependance in roots is the beet, but carrots are also used in considerable quantity; ruta bagas are found to affect the milk. Beets are preferred to carrots, but cows are found to like an occasional change for the sake of variety. This feeding is continued from early in autumn until green food becomes plenty in May, say for full seven months. The long blood beet is the variety selected as best.

Dr. Gray's experience fully corroborates the testimony of others as to the importance of gentleness and mild temper in the management of the cows; and he narrated instances in which a temporary change from the usual herdsman to those who were harsh and rough in their treatment, had at once shown its effect in the diminished amount of milk obtained.

In order to preserve the roots raised, a brick building was erected in 1861, 36 by 80 feet, with a basement of seven and a half feet, impenetrable to frost. The story above, or ground floor is eight and a half feet in height, and is devoted to grains, peas, beans, &c., with a loft for the storage of light farm and garden implements.

The stable in which the cows are kept, is well lit and ventilated, and kept scrupulously neat. The cows are in two rows of stalls, attached by chains with sliding rings, the stalls facing a wide alley through which the feed is given out. The manure from the stables is composted, and a tank for the liquid portion of it was put down in 1861, of over 1,300 gallons capacity, in which 2,654 gallons were collected during 1862, which was mostly pumped from time to time on to the compost heaps.* Arrangements are making in connection with the buildings, by which everything of a manurial nature, both solid and liquid, will be easily preservable for use; and the importance of this will be perceived when it is known that the family of patients, attendants, and others, is ordinarily from seven to eight hundred individuals. The means which Dr. GRAY proposes for the accomplishment of this end, will yield some valuable results as a test of the quantity and quality of the manurial product from an establishment of so many persons, both in the aggregate and as regards the solids and liquids respectively.

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* Some trials were also made with Liquid Manure directly applied to grass and other crops, in strips, for the purpose of comparison with the remainder of the field; and the results, we were assured by Dr. Gray, were such as to convince him fully of the economy of liquid manure cisterns, to insure its being saved either for this purpose, or for application to the compost heap, as above described.

To such an institution as this, the farm is a most important adjunct, securing an otherwise almost unattainable variety in the diet of the occupants, at a reasonable outlay, while the garden labors furnish for many of the inmates a sort of employment well suited to their condition and strength, and much more cheerful than any kind of in-door work or exercise. In the household arrangements, the laundry, kitchens, &c., there is much that it might be interesting to refer to, if space permitted. We shall only add a few words as to the method of heating and ventilation.

As the buildings extend along a front of 550 feet, with wings enclosing a hollow square two or three hundred feet in depth, and having a fourth range of buildings on the farther side of the square, the task of heating is necessarily one of great difficulty and expense. The hot air furnaces formerly employed, had never been fully satisfactory, and in 1853, a new system was decided upon, which, with various modifications introduced during the five or six succeeding years, has now been perfected so as to realize all, or more than all the benefit ever anticipated from it, and to form a model for all public buildings of similar size.

A thirty-horse power steam engine is employed, with which are connected two boilers eight feet in diameter and 26 feet long. Steam from these boilers is carried by piping to coils placed in air chambers constructed for the purpose in the basement halls. A series of these air-chambers extends throughout the basement, containing coils of steam piping one inch in diameter, the coils nine pipes wide and four deep, and thus capable of radiating a great quantity of heat. Cold air is blown by fans through an air passage perhaps ten feet wide and high, in a constant current; this current reaches the air chambers through openings beneath the steam coils, and, passing through them, is charged with sufficient heat to supply a continuous stream of warm air through registers in all parts of the buildings above. The quantity of steam admitted to the coils is so regulated as to moderate the heat given out, to the exact requirements of the weather; while, in the summer, no steam at all is admitted, but the fans are kept at work, so that the atmosphere of the buildings is constantly renewed and cooled by the current from below. The engine building being at a distance from the others, there is no danger of fire, and the heat communicated is of the most healthy description. In winter about 120 cubic feet of warm air *to each patient* throughout the whole establishment, is thrown into it *every minute*; and, in warm weather, an equal quantity of fresh air, both day and night.

After some mistakes in construction and an outlay very much enlarged by the fact that the buildings had to be remodeled to such an extent to adapt them to this ventilating machinery, a point has been reached, leaving little, if anything, to be desired, and the details, if not inappropriate to our columns, would be instructive in some respects to every house builder. The same system has since been adopted for the Capitol at Washington, and by more than twenty other public institutions.

With one word farther as to the farming and gardening, we conclude. The value of the crops of 1862 was stated above at $5,358.57, and some may be curious to know what were the main items in this amount, and the rate of valuation at which it was made up. Some of the principal crops were—

Hay, 110 tons, at	$9.00	$990.00
Green Cornstalks, 100 tons,	2.50	250.00
Oats 822 bushels,	50	411.00
Potatoes, 2,044 bushels,	31	633.64
Beets, 2,583 bushels,	30	774.90
Onions, 200 bushels,	60	120.00
Carrots, 1,394 bushels,	30	418.20
Tomatoes, 257 bushels,	75	192.75
Apples, 306 bushels,	37½	114.75
Cabbage, 3,100 head,	04	124.00
Celery, 4,023 head,	04	160.92
Asparagus, 2,888 bunches,	05	144.40

The remainder is made up of the various garden crops in items of less than $100 each. L. H. T.

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DESTROYING APHIDES.

Our readers are aware that we place but little reliance on any remedy for destroying insects, short of killing them at once. Wholesale destruction is desirable where it can be performed, and it is more particularly applicable to the removal of aphides from fruit trees and ornamental shrubbery. In some cases very strong tobacco water has answered the purpose; in others a solution of whale oil soap has proved successful. Probably a mixture of the two would accomplish the object in any case. As whale oil soap is not always at hand, we have found common soap suds generally prove efficient. One year several thousand young fruit trees were thickly infested with aphides; we directed all the soap suds on washing days to be carefully saved, and as little diluted as as practicable, so as to give it its full strength. It was carried along in pails and held under the stems and branches, which were bent over and immersed in it, slightly shaking them so that the insects might become well dosed. It killed them in every instance where this care was taken, but where the work was superficially performed, that is, by merely dipping them in and out again in a moment, a considerable portion escaped. Two or three days diligent work entirely removed the pest from the plantation.

But there are instances where the branches cannot be bent over nor immersed in the suds; a syringe must therefore be employed requiring a large amount of liquid, but proving equally efficient if well used. It is not necessary that a costly instrument be procured for this purpose—a garden engine or hydropult cannot be applied to every corner and hidden leaf so well as a small instrument held in the hand. One may be made by a common tinman, costing altogether not more than one dollar. The end should be perforated with a number of small holes, so as to dash a smart shower on the under side of the leaves, or to any part of the plant. Wherever this mode has failed, it has been owing to the weakness of the solution, or to a want of efficient application.

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THE MORGAN HARROW.—JOHN JOHNSTON, who wrote us a few weeks since, speaking of this implement in the highest possible terms, adds in a letter dated June 17th: "The Morgan Harrow don't give me satisfaction on stiff timothy sod; it is entirely too light for that kind of work. It does better when weights are put on it, but in that way it works the same as the Scotch Harrow. When weights are on, it don't vibrate from one side to the other. It is excellent for loose clover sod, or to harrow any land in good condition, and I think cannot be excelled for covering seed."

RAISING ORCHARDS IN THE WEST.

Mark D. Willson, of Dodge county, Wisconsin, who has been quite successful in raising orchards at the West, states the following as the essential particulars of his management:

1st. Planting on knolls or dry ridges and using little or no manure. This causes the trees to grow moderately and to ripen their wood so as to endure the cold of winter. The warm summers and fertile soils at the West, render this more essential than in the Eastern States. The growth of about two feet each season, is a good bearing length—when much exceeding this, a poorer soil should be chosen, and cultivation diminished; when less, the soil should be at once cultivated and enriched.

2d. Trees should be pruned with low heads, the bare trunks not exceeding two and a half or three feet high. Such trees are much less exposed to high winds.

3d. A mound of smooth earth a foot high, is made about each tree late in autumn, to keep off the mice, and several inches of straw spread five or six feet each way about it, to protect the roots from severe freezing. The mound acts as a perfect protection from the mice that are apt to infest this straw. This is equal to a protection of snow, and has been found particularly valuable and essential in raising the dwarf pear at the West, where, with this treatment, trees eight years from planting are now growing with all the health and beauty of form of any in Western New-York.

4th. Selection must be made from the hardiest varieties, upon which experiments have now been pretty fully made, and results given in former volumes of this paper, and in the Illustrated Annual Register.

GARDEN WALKS.

There is no part of gardens or pleasure grounds more expressive of the character of the keeping than the walks. No matter how fine the flower-beds may be, if the walks are not bounded by smooth and graceful curves, or if they are rough, irregular and unfinished, the grounds will convey unmistakably an expression of bad management. But a smooth and perfect walk on the other hand, even if carried through a wild natural shrubbery, imparts a finished air to the whole. These facts should be borne in mind by all owners of ornamental gardens.

Remedies for Ticks on Sheep.

In reply to an inquiry in your paper, as to the best mode of destroying ticks on sheep and lambs, I beg to say that a little paraffine oil, put upon the necks and along the back, at shearing time, is an effectual remedy. I tried it this spring, and it has been most successful, doing no harm to the animals. R. W. *New-Brunswick.*

A subscriber asks what will take the ticks from his lambs. Rub brimstone and lard along the back, and the ticks will disappear; or make some tobacco water strong enough to kill a tick, and pour it along the back of the lamb. M. *Springfield, Ohio.*

Cure for Foot-Rot in Sheep.

The Irish Farmer's Gazette gives the following simple remedy: Pare the foot, removing all the jagged and loose bits of horn, and anoint it with butyr of antimony. Repeat it every second or third day, according as the feet are more or less bad.

Preparation of Bone Phosphate.

Eds. Co. Gent.—In answer to an inquiry in your edition of June 4th, I give below my process for preparing bone phosphate. I buy the raw bones at 50 cents per 100 pounds, grind them as fine as possible, sift the coarse from the fine, put the coarse in a cistern, saturate it with water, let it stand about six hours, and then add vitriol—stir it well—then dry it with the fine bone. If not sufficiently dry, add a little wood ashes—100 pounds vitriol to 500 pounds bones.

My phosphate costs me about $24 per ton.

Wilmington, Del. J. PUSEY SMITH.

THE BLACK SQUASH BUG.

Messrs. Editors—In the June Cultivator, J. T. B., Cumberland, Md., inquires for a means for the destruction of the Black Squash Bug. Lay a shingle on each hill—leave the ground rough so they can crawl under—go early in the morning with a dish of water, take up the shingle, and brush the bugs into the water with the hand, as most all of them will be on the under side of the shingle. They go under the shingle at night I suppose, because it is warmer. A hundred hills can be cleaned in this way in a few minutes. When all are collected, pour the contents of the dish on the ground, and as the Irishman said, *leave your foot on their heads.* Repeat the operation as long as the bugs work. The striped bug won't mind the shingle. Jos. E. Phelps. *Worcester, Mass.*

DRIVING BEES---DOUBLING SWARMS.

Messrs. Editors—In the Co. Gent. of the 2d inst., Mr. L. F. Scott, asks how to drive the old stock of bees in with the last swarm issuing. The operation, I think, is a very easy and simple one. Place the hive with the new swarm upon the stand previously occupied by the old one, having removed the old one a few feet from its place. Expel the bees from the old hive, and they will repair to their old stand and enter with the swarm occupying its place.

It should be remembered that this should be done only with the second or third swarm. When the first swarm issues the brood comb is filled with brood in all its stages. To break up the hive at that time a swarm is lost in the brood comb. The second swarm issues when the brood is perfected, again filling the hive with a numerous colony; and also at a time when there are few, if any, eggs deposited by the young queen. But it should be reckoned in the estimate that there are now two young queens, each capable of founding a new colony; and if the swarms are merged in one, one of the two queens perishes. The following questions should be settled previous to breaking up an old stock:

1st. Is the comb so old that it is unfit for brood anothe season? If so,

2d. Which, from the prospect of the latter honey harvest, will secure most profit from the old stock—to let them work until the harvest is closed, and then drive them in with another stock, securing the additional brood from the queen, and whatever honey they may have made through the season, or drive them in at once?

The strength of the issuing swarm also may be considered. One strong swarm may be worth more than two weak ones, or the two may be so strong as to resist the incroachments of the moth and make good swarms. If after weighing the question in all its bearings the owner decides to break up the old swarms, the simple course above recommended will enable him to do so very readily.

It should always be remembered that fumigating the swarm with tobacco smoke will render them harmless in all operations with them. J. Hazen.

Note.—I have a few new swarms of bees which I would like to show to any friend who will please to call on me, on the Delaware turnpike, one-quarter of a mile from Morton-street.

HEDGES FOR THE SHADE.

A friend inquires what the best hedge plants are to grow in the shade of trees. Nothing is better than the hemlock or the Norway spruce. Any one can readily determine before hand what plants will succeed best, by examining the interior of thickly growing bushes. If on turning up the branches, the leaves are found dense and healthy inside, such trees will grow well in the shade; but if the inside leaves are dead or the shoots bare of foliage, they will not succeed. A Buckthorn hedge, for example, is found to have all the leaves outside, and none at all toward to centre; as a necessary consequence, the Buckthorn is one of the worst of all hedges under the shade of trees.

How much Hay does it take to Winter a Cow?

In seasons of extreme scarcity of fodder, like that of 1862 and 1863, the above is an important question. Many farmers are apt to overate their amount of forage and run short before spring opens, at a great loss in the extra price of hay and increased waste and expense in moving it. This might in a measure be obviated if farmers were careful in estimating their crop of hay during a series of years, and noting how much a given space of barn room would carry through the winter. It is variously estimated from 1½ to 2 tons to winter a cow. Some years since I weighed the hay fed to fourteen cows for four consecutive weeks, in the months of March and April. It averaged twenty pounds per cow per day. The hay was a good quality of timothy with a sprinkling of clover. Allowing the time of feeding six months, or 180 days, 3,600 pounds would winter a cow. Last spring, in the months of March and April, I tried the experiment of measuring hay in a well settled mow, and found that twenty cows ate 100 cubic feet of hay per day, equal to 400 pounds.

Mexico, July 4, 1863. HIRAM WALKER.

TICKS IN SHEEP.

MESSRS. EDITORS—Under the above head I see a question in your paper, from Mr. John Holt. I would recommend "Lalor's Sheep Dipping Composition"—the same that is advertised in the Co. GENT. I used it with some of my lambs that were troubled with ticks, and it effectually destroyed them. Whether it will have all the other effects claimed for it I am not yet able to say. My lambs are improving very much in condition since the dipping.

FRED. COURTLANDT.

WHAT AILS THE COLTS?

MESSRS. EDITORS—I have just seen two horses, 3 years old, that have each had a sore hind leg, which I think will cut short the life of both. The first, was like a colt with grease or scratches in the heel, which rapidly became an unusual sore, breaking and discharging offensive matter, and being filled with proud flesh. The second cracked across the pastern and down into the hoof, each swelling rapidly, and discharging freely; the second runs at times large quantities of blood, until in danger of bleeding to death before the blood can be stopped. Each colt has a dry hacking cough, and both lose much flesh, and will I think both die; and yet there has been much done for them, even to watching at night. One is a gelding and the other a valuable stallion, on the same farm, and both have been well cared for when in stable and when in pasture. Any information to the owner or myself, would be advantageous to him and gratifying to me. X.

PRESERVING FRUIT.

The modern method of putting up fruit in air-tight jars with little or no sugar, has been so often published that it can hardly be supposed that many good house-wives can be found who do not understand it. But the subject cannot be too often alluded to until every family in the land is induced to lay in a full supply of the various fruits for winter use, with as much certainty as the farmer does his beef and vegetables. Fruit, besides being one of the greatest luxuries, contributes greatly to health, and nothing is more economical as an article of food. This is an age of improvement, and each year's experience suggests something new, either in the manner of closing the jars, or in some equally important part of the process.

From the experience of a number of years in putting up various kinds of fruits, we learn that the less they are cooked the more nearly the natural flavor of the fruit is preserved, provided the heat has been raised to a sufficient degree as to entirely expel all the air contained in the cells of the fruit.* Beyond this, cooking is unnecessary. For heating the fruit we have practiced various methods; at first it was scalded in a kettle and then put into the jars, but of late years, particularly with the different berries, our practice has been to put them at once into the jars, and then set them into the water, raising the heat to the boiling point, letting them stand in the water until the contents were thoroughly heat through,—taking the fruit from one of the jars to fill up the shrinkage, or some is scalded in a kettle for this purpose,—and then sealing immediately. By putting the fruit into the jars before they are scalded, it retains its form much better. The most convenient vessel for setting the jars into for scalding that we have tried, is a square tin pan, as large as can be conveniently heated over the stove, say to hold ten or twelve one quart jars at a time, in two rows. The depth of the pan should be nearly equal to the height of the jars. We have learned one lesson by rather costly experience. If the jars set close down upon the bottom of the pan they are very liable to break, owing to the confined air in the cavity at the bottom. To obviate this, a small wire is bent in a zig zag form, so that some portion of the wire will come under the bottom of each jar.

Every year brings out a number of new patents for self-sealing jars. Of the great number of these it is not easy without a trial, to determine which are best. A very convenient kind for closing, and which remains perfectly tight, is known as Lyman's patent. Last season we saw a very simple and economical method practiced, applicable to any kind of jars. It was applied, however, to fruits preserved in about half the usual weight of sugar, something after the old plan of preserving fruits, and the jars closed when not quite so hot as is usual in the modern method of putting up fruits. The jars were closed by simply pasting two thicknesses of strong manilla paper over the neck, after having placed over the fruit in each jar a piece of paper cut to fit the inside. This paper is unsized, such as is used for printing; they kept perfectly. In sealing up fruits while hot, which should always be done, the shrinkage would be more and the pressure on the outside consequently greater. We think a very safe plan would be to apply, first, a piece of strong cloth over the jar, closely pasted around the neck, and then to cover that with two thicknesses of manilla paper, the first extending a little below the edge of the cloth, and the next thickness below the first, so as to be sure to close every passage against the ingress of air; then to the whole apply one or two coats of glue. This would be a simple process that any one could perform, and we have no doubt would be as effectual as any of the patent self-sealers. We have frequently put up tomatoes, and other fruits, in cheap quart jars, such as are sold at 75 cents per dozen, and closed them with nothing but a simple cap of strong cotton cloth, well waxed and firmly bound around the neck with twine, and the whole well coated over with wax; but the binding is a severe operation for the hands, and if the paste and glue will answer the same purpose, cheap jars may be used and the work easily done. H.

THE CULTIVATOR.

ALBANY, N. Y., AUGUST, 1863.

☞Col. L. G. Morris, Ex-President of the State Agricultural Society, and so long and extensively known as a breeder, last week gathered quite a company of his friends at Scarsdale Farm—partly, we venture to presume, for the pleasure of such a gathering, and partly that the trial of a new Self-Raking Reaper might be witnessed under the favorable auspices of so many intelligent and practical judges. The farm itself is worthy of a visit, embracing three hundred and fifty acres out of the not very large area which Westchester county can boast of really excellent farming land, and including at least its full share out of the abundance of beautiful scenery which render the hills of that county more prolific all, of picturesque views and pleasant landscapes, than many of them are of waving grain-fields, or heavy hay-crops. Here, as we shade ourselves, at length, under the full-fruited cherry trees, the tall rye in the next enclosure is our only screen from the waters of the Sound, floating cargoes whose sails overtop the grain; and, as we lose this prospect, in turning, another opens on the eye, stretching across to the Palisades of Rockland and the quiet current of the Hudson.

The machine under trial was the Buckeye Mower adapted as a Reaper, by the addition of a platform and reel, together with a Self-Raking attachment involving some new points, although coming under the Seymour & Morgan principle. The manufacturer, Mr. John P. Adriance, of New York and Poughkeepsie, has already established his Mower in popular favor, and his object in the present combination is to supply such a machine as will be most effective in labor-saving for the use of farmers whose grain land is not sufficiently extensive to warrant the purchase of a Reaper as well as a Mower. The back of the platform receiving the grain, assumes the form of a quadrant, and is swept by a rake which derives its backward and forward motion from an iron arm bent over the inner driving-wheel of the machine, and the upward and downward motion, that gathers and drops the sheaf, from a chain so attached as to draw the teeth down upon the platform just behind the knives, and lift them to release their burden when it has been swung back over the vacant ground. It has not been in operation long enough to secure the entire adaptation of all its parts to every variety of grain, but is characterized, like the Mower itself, with a degree of simplicity and ready control on the part of the driver, which appear to require but a little farther experience in the field to render it equally efficient for the purpose designed.

The crop on which it was tried was the field of Rye already referred to, very long and heavy in straw, and considerably tangled in growth. It was a test of the most severe kind, but, with some slight modifications as suggested above, to fit the raking apparatus to the extreme length of the grain, (between six and seven feet throughout) and to strike the teeth somewhat more forcibly into the straw—the spring not having quite effect enough for such heavy and tangled bundles,—the work would have been successfully performed; and the machine as it was, would, probably, have done good execution in the shorter straw of wheat or oats, if there had been any ready for cutting. We understood, moreover, that the machine had never been in operation before that day—the weather immediately preceding having prevented the preparatory experiments which Mr. Adriance expected to make.

A mowing machine of Allen's patent, and subsequently one of the "Buckeyes," were also tried in a meadow adjoining,—both with the usually satisfactory results.

In the evening we had a charming drive to Fordham, and the next morning took the Harlem train for White Plains, where we spent some hours with Messrs. Edw. G. and Samuel Faile, in looking over the farm of the latter gentleman, the improvements upon which have already been referred to in these columns. The change which has been effected since this farm came into the hands of its present proprietor, is almost beyond belief; since our own acquaintance with it began, which was after a considerable beginning had already been made, the progress effected has been very great. It affords, as we have stated before, one of the most perfect and thorough examples of underdraining in the country, and as such alone is a study to the farmer; while the amelioration of the soil, after draining, by the course of culture adopted previous to seeding down, including deeper plowing and a liberal application of bone-dust, is rapidly increasing the product obtained.

Out of the not quite 300 acres, there are this year about 125 to harvest—75 or 80 of hay, and the remainder in the various grain and root crops; and while the season has been too dry to give perhaps a fair average yield, the crops now harvesting are generally quite heavy. The standing oats are the best we have seen; the rye, like that at Col. Morris', is very large and heavy, and the wheat is as good if not better, than we have seen in the river counties. In dressing the fields of rye and wheat last autumn with bone dust, one strip in each, a rod or so in width, was left without any application of the bone; the object being to ascertain how far the first crop alone would go to pay the $12 or $14 per acre which the bone dust has cost. These strips had now the appearance of vacant lanes through the field—the straggling grain they contained was not only very thin, but much behind the rest in maturity, and could not have yielded at the rate of five bushels to the acre, while the rest of the fields will vary we presume from 20 to 30 bushels. But this is not all; the clover growing with the grain shows quite as great a difference in favor of the bone dust as that does, both in size and thickness. Thus the effect of this application may be expected to continue several years, while even the first harvest gives a profit upon it.

In the afternoon we returned with E. G. Faile, Esq., to West Farms, and had the pleasure of a call at the place of William Watson, Esq., well known among breeders of Ayrshires for his importations of these useful cattle. He has now quite a herd, including some very perfect examples of the breed. Mr. W. has also imported and bred Shetland ponies in considerable numbers, the demand for which, as well as for the Ayrshires, keeps fully up with the supply. The ponies are beautiful little creatures, either as pets and curiosities, or for the use of the advancing generation. Mr. Watson's gardens and grounds are very complete; and the mansion, erected two or three years ago, is one of the largest and most costly, as well as of the most perfect, in the taste displayed and the conveniences obtained, throughout a region dotted all over with extensive and elegant villas.

Mr. Faile's admirable herd of Devons, we should add in conclusion, continues to receive the attention it has always had, and to thrive as well as ever. L. H. T.

☞ It is with deep regret that we note the fall, during the battle of the 3d inst., at Gettysburgh, of Col. E. Sherrill, late of Geneva. Among the many who have gone into the service of their country since the beginning of the present war, we know of none actuated more purely by feelings of patriotism and duty, and few if any whose loss would be felt more deeply by their friends. Col. S. had retired within a few years past from active business, to devote himself mainly to the pleasures of country life; he was earnestly engrossed in the improvement of one of the best farms in the vicinity of Geneva, which had suffered somewhat from neglect, but which he was rapidly bringing to a high state of cultivation, and his business habits and practical sagacity led us to anticipate that it might ere long become one of the model farms of the State. He had served some time on the Executive Board of the State Agricultural Society, where his voice was ever regarded with respect. When the President's call for troops was issued, a little more than a year ago, it became evident that volunteering must be encouraged by the example of those whose age and position might otherwise have allowed them to hope for exemption from active service; and Col. S., at the urgent request of those who knew how far his name and character would go, accepted the command of the regiment to be formed in his district, and with his co-operation it soon came into the field. It was ordered to Harper's Ferry, and had scarcely reached that post, when an attack was made, resulting in the ultimate surrender of the place, and, in the brave effort to rally our retreating men, Col. S. was seriously and as at first supposed fatally wounded. It was long before he regained his usual health, but he was impatient to take the field again, and has now fallen—dying, as he lived, a model of fidelity and courage to the Christian Patriot. Col. S. had been a member of Congress as long ago as 1845, and was about 50 years of age.

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☞ A number of invitations to visit different parts of this and other States, have been received during the present season, only a small part of which we have been able to accept. It is due to our friends, however, that we should acknowledge their many polite offers of hospitality and assistance in such agricultural excursions. It is always a source of pleasure to us, personally, to make the acquaintance of our subscribers, and it is no less as a gratification than as a professional duty, so to speak, that we are glad to take every opportunity of extending our observations among them,—of understanding more thoroughly both the systems of practice they pursue, and the natural advantages of their different localities. If the notes of such journeys fail to add very materially to the general stock of practical knowledge, they seem designed at least to promote a sort of sociability in the circle of our readers, and to carry somewhat of the recreation of travel to those whose duties confine them more closely at home, and who are thus obliged to avail themselves of the very imperfect medium of another's eyes, in order to obtain very frequent glimpses of what lies beyond their own farms and gardens and neighborhoods.

It is not, therefore, from any lack of appreciation or intentional neglect, that some of the invitations that have come to us, have been unacknowledged or unaccepted. Sometimes they have been laid aside in the hope that the course of events might render an acceptance possible, until so long an interval has elapsed, that an answer seemed rather like an aggravation than a courtesy. There are large portions of the country, including many of its best farming districts, which we have not yet been able to see, at least in detail; and there are others, possessing less fertility, and perhaps fewer attractions to the casual traveller, where the improvement attained deserves equal credit and is equally worthy of study. The field for examination is thus a very wide one, and it will continue to be our aim to make such inroads upon it, from time to time, as other engagements may permit, and to avail ourselves toward that end, whenever it is possible, of such co-operation as may be proffered.

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☞ The Agricultural College at Cirencester, England, which is considered by many as the model institution of the kind in Great Britain or any other country, has lately re-organized its corps of instructors, parting with the services of Dr. Voelcker, Profs. Coleman, Brown and others, but filling their places with a new staff who will impart greater vigor and efficiency, as its management claim, than have heretofore characterized its course. Whether these anticipations are to be realized or not, there is a new feature to be adopted which will attract attention, and to which we refer because it is in some respects quite analogous to the Agricultural Lecture Course given here, at the Yale Scientific School at New-Haven, in the winter of 1860—a project then intended for annual repetition, but interrupted by the breaking out of the present war.

Beside the regular instructors at Cirencester, there is to be an autumnal series of lectures before the students, by a number of gentleman not connected with the institution, and all of them of high standing in different departments of agricultural science or practice. Among them we notice the following:

On Farm Implements,...........	Mr. Scott Burn.
On Crop Cultivation.............	Mr. Baldwin of Glasnevin.
On Land Drainage,...............	Mr. Bailey Denton.
On Tillage,.........................	Mr. J. C. Morton.
On Manures.........................	Mr. Robert Russell.
On Seeding Corn Crops..........	Mr. Hewitt Davis.

And on the history, &c., of the different breeds of Live Stock, Capt. Tanner Davy, editor of the Devon Herd Book, Mr. Duckham, Editor of the Hereford Herd Book, and others are to assist. The London Agricultural Gazette remarks: "It is certain that the various thought and even the conflicting opinion which may thus be uttered in the hearing of agricultural students will be a truer picture of the various agricultural experience they will hereafter, each for himself, realize, than could be obtained from any single tale, however complete and logically consistent it might be."

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☞ We are indebted to the publishers, Messrs. D. Appleton & Co., New-York, for a copy of "The Natural Laws of Husbandry," by Justus von Liebig, edited by Dr. John Blyth, Professor of Chemistry in Queen's College, Cork. At an early opportunity this work will be reviewed at length in our columns. Meantime those desiring to procure it, can address the publishers as above.

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☞ During our last week's journey a friend inquired the comparative prices of English and American cheese in the London market—a question which at the moment we were unable to answer. The following are the quotations of the Mark Lane Express of June 8th:

CHEESE, per cwt.	s. s.	CHEESE, per cwt.	s. s.
Cheshire,.....................	56@75	Cheddar,.....................	60@75
Double Gloucester,.........	58 64	American, ...	40@54

We think it is only within a comparatively short time that quotations of American cheese have appeared on the list; in turning over volumes of the London Farmers' Magazine, we find no mention of it down to September, 1861, since which date we have no file at hand.

☞ Our sagacious contemporary, the London *Mark Lane Express*, although it devotes more space to prophecies about the Weather, than to those about the future exportations of Grain from this country—still continues the latter at intermittent periods. If its correspondents don't foresee coming storms and calms with any greater accuracy than the editors do coming cargoes of wheat and flour, the science of meteorology can hardly gain favor very rapidly among its readers.

In an article in the Country Gentleman of Dec. 11th, 1862, we referred to this subject, and showed how the journal above mentioned had repeatedly asserted that "that unhappy country so lately called the United States" could no longer produce much, if any, breadstuffs for shipment. In May, 1861, it pronounced authoritatively that Great Britain had "America no longer to depend on;" in July, 1861, it said that "for the present year, certainly, the American market may be looked upon as a very *limited one indeed.*" By the end of September, shipments being still maintained in large quantities, the evil day was adjourned; we had not kept our crop of the preceding year at home for use, but we surely could have raised nothing of any account in 1861, and *this* was "*the last year*" that England might expect to see any considerable amount of American grain landed on her shores.

All this (and much more) was in the face of reports in this paper and elsewhere proving exactly the contrary. The results in 1862 we give below from the columns of the *Express* itself, under date of June 15th, 1863:

"According to the returns of the Board of Trade, the importations of wheat in 1862 amounted to 9,469,270 quarters; and of flour, to 7,207,113 cwts., equal to 2,059,175 quarters; making an aggregate of 11,528,445 quarters, being nearly three millions above the largest quantity imported in any previous year. From the United States alone the quantity received amounted to 5,010,351 qrs, [40,082,808 bushels] namely 3,724,770 qrs. of wheat, and 4,499,534 cwts. of flour, equal to 1,285,581 qrs. of wheat, *such an importation as was never before received from thence.*"

The same article, however, not discouraged at the complete refutation of all previous predictions by the facts just recorded, indulges again, with reference to 1863, in almost exactly the language it has used at short intervals for two years past, as to the crops of 1861 and 1862: "As to the importations, *we cannot expect a large amount from the United States.* Not only has the war devastated a great extent of the wheat-growing districts of that country, but the rural or agricultural population have been so reduced by drafts for the army, that in many parts there are not left hands enough to cultivate the land. Such interference with the regular processes of agriculture will have a material effect upon production."

We cannot deny that some effect has been felt by our "agricultural population," resulting from the "drafts for the army," but we are quite unaware that a single acre "of the wheat growing districts" which have ever exported their products to Great Britain, has been "devastated" by the war or by any other cause. Is it ignorance of the country, or a desire to misrepresent it, which leads to such statements? Even now that we have a rebel force in Pennsylvania, sending southward what are doubtless most important supplies for the famishing forces of rebellion, we are losing nothing that will be missed, here or in England, when the grand aggregate of the crop of 1863 comes to be made up. Of course we must not speak too confidently of what is as yet a matter for the future to determine decisively; but,—with such reductions of labor as may have taken place—with such injury as the drouth of the past few weeks may *in some localities* have accomplished,—if a kind Providence continues the measure of favor with which the season has thus far been reached, until the harvest is safely housed, we shall not run much risk in promising our London friends in Mark Lane—perhaps not the enormous quantities of wheat and flour we sent them in 1862—but an amount fully equal to the average of the past five or six years. The *Mark Lane Express* calculates that, however good English crops may be, that country must import at least five million quarters of wheat the coming season; and we think we have good grounds for hoping to be able to supply *at least one-half or two-thirds* the quantity from "the late United States" alone.

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☞ The Wheat Show, noticed by us some weeks ago as in contemplation at Rochester, is now definitely announced to take place Sept. 8–10—under the auspices of the Monroe County Agricultural Society. The following premiums are offered:

For the Best 20 bushels of White Winter Wheat,...............	$150.00
For the Second Best do. do.	75.00
For the Best 20 bushels Red Winter Wheat,.....................	100.00
For the Second Best do. do.	50.00
For the Best 2 bushels White Winter Wheat.....................	50.00
For the Second Best do. do.	25.00
For the Best 2 bushels Red Winter Wheat,.......	40.00
For the Second Best do. do.	20.00
For the Best 2 bushels Spring Wheat,........................	20.00
For the Second Best do. do.	10.00

"Competitors for these Prizes will be required to furnish samples of the wheat in the ear and with the straw attached, (say 50 ears of wheat and straw,) also to furnish a written statement of the nature of the soil on which the wheat grew, method of cultivation, time of sowing, quantity of seed sown, manures (if any used,) and mode and time of application; also the time of ripening and harvesting, and the yield per acre, with such other particulars as may be deemed of practical importance; also the name by which the variety is known in the locality where it was grown. The Wheat must be one variety, pure, and unmixed. The prize to be awarded to the actual grower of the wheat, and the wheat which takes a prize is to become the property of the Society."

As competition is open to all parts of the United States and British Provinces, we trust that the liberal prizes offered will elicit some of the best Wheat grown in all the different localities in which it is the staple crop. Mr. Jos. Harris, President of the Monroe Co. Ag. Society, in announcing the prize list—the money for which has been subscribed in Western New-York—remarks: "We have never yet had a good Wheat Show in the United States. It is highly important that the wheat growers of the country should meet together and compare samples of wheat raised in different sections. The holding of the Fair has been fixed so as to enable farmers to purchase their seed from the wheat entered for competition. A change of seed is always desirable, and it is believed that all the wheat of good quality sent to the fair will find purchasers at a high price."

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☞ It was our intention sooner to have referred to the Advertisement of "Fickardt's Cattle Powder" which has now appeared some time in this paper. It is prepared by William Ralston of Philadelphia, who sends us high testimonials in its favor. We are informed that Dr. G. Emerson, editor of the American Farmer's Encyclopedia, in whose judgment we should place much confidence, has tested it satisfactorily, and uses it on his own farm. We are promised a sample for experiment, and shall endeavor to give it a fair trial and report the result.

Inquiries and Answers.

GERMINATING CHERRY STONES.—Will you inform me how to manage cherry and mahaleb seeds, to make them grow? What time should they be planted? I buried some last fall about two inches in the ground, and planted them this spring, but none grew. T. J. SEEVERS. *Iowa.* [The seeds, in this instance, may have been properly kept and planted, but as often happens, were probably dried too much previously for germination—or possibly they may not have been fully ripe. To preserve the seeds of cherries, the pulp should be first washed away, and the stones then mixed with slightly moist sand. If intended to send to a distance, the sand would be too heavy; and the stones must be therefore dried enough to prevent heating or moulding. The drying should be done in the shade and not be continued a day beyond the time necessary for drying the surface. If continued several weeks, the stones will not grow. They should be kept over winter in moist sand, exposed to freezing and thawing, and planted very early]

SHINGLING ROOFS.—I would like to know when is the best time to lay a roof—in the old or new moon, to keep the shingles from springing, or whether the moon is the cause of their springing or not? H. E. ASHLEY. [Happily the innocent moon has nothing to do with the matter, and the best time is when the operator has a good supply of excellent shingles and fine weather before him. The warping is owing to the use of warping timber, or to laying unseasoned shingles. Dipping them in limewash before laying will greatly increase their durability, by hardening the surface, and preventing the growth of moss]

SEEDING WITH CLOVER—Will clover seed do any better if sown in the fall than in the spring? LOCKPORT. [If clover seed is sown in autumn in the northern States, the young plants do not get a sufficient foot-hold during the same season, and are liable to be winter killed. Very early in spring is therefore the best time.]

MILLET.—When is the best time to harvest Hungarian grass? LOCKPORT. [We have not had experience with the Hungarian grass, but suppose the best time for cutting to be as the seed approaches maturity, and while most of the stalks and leaves are yet green]

CLOVER SEED.—Please to inform me whether the Pea-vine clover should be cut for hay early and the second crop left for seed, when seed is the main object, or the first growth left for seed. S. [Cutting the first crop for hay, and leaving the second for seed, is the most approved practice; but as the pea-vine variety does not ripen as early as the common clover, it should be cut early in the season, or what may perhaps be better under the circumstances, pastured very closely early in summer, and then allowed to grow up for the seed crop.]

"BEAUTIFUL MICROSCOPE"—Enclosed please find one of those "beautiful microscopes," magnifying 500 times for 28 cts., coin preferred. If it is not a humbug, I should be glad to know what it is. Please tell your readers what you think of it? S. E. M. *Mansfield, Pa.* [The microscope sent by our correspondent, is a globule of glass, one-sixth of an inch in diameter, set in a piece of thick sheet lead, of an oval form, an inch wide, and an inch and a fourth long, and weighing a quarter of an ounce. This is all that came to us The glass globule acts as a magnifier. Its focal length being about one-tenth of an inch, it magnifies dimly the diameter about 60 times, and the surface about 3600 hundred times. It is only a curiosity; it is of no practical value as a microscope—for being of globular shape, it must be placed almost in contact with the object viewed, and requires practice and skill to use it at all. The globule was evidently made by melting and dropping like shot—as is evident by the small *scar* on one side, towards which the globule slightly tapers, and it is not very clear and transparent. A pound of lead would make about 60 such microscopes, and the glass globules could probably be made at the rate of several hundred for a dollar—but manufacturers must have something for their trouble and expense.]

SPROUTS FROM APPLE TREES.—I have some apple trees that have been set out five years, and some of them sprout up from the roots every year, three to fifteen inches from the body of the tree. They receive clean careful cultivation and I do not think any of the roots have been bruised. Can you tell me what is the cause of their sprouting up, and how to stop the same? J. E. P. *Worcester, Mass.* [Some varieties or stocks naturally sprout more freely than others. Doubtless the one mentioned happens to possess this characteristic in a high degree. The best remedy will be to grub up the sprouts as fast as they appear until they cease to grow. This will not require a great deal of labor, nor have to be repeated a great many times.]

CANNING PEAS.—Will you have the kindness to inform me through the columns of the COUNTRY GENTLEMAN, how to *can Green Peas?* This insertion would confer a great favor to many friends of your valuable paper in this vicinity. We tried them the same as ripe fruit last year, but failed. M. E. C. [Will some of our readers who have been successful with canning peas, please give us clear, distinct, and condensed directions, with all the requisites—also for canning the different fruits?]

SHEEP.—Brother farmers, will you please communicate through the papers, your different ways of marking sheep, and also how to kill ticks on them? Tobacco water is recommended by some—state how to prepare it, what quantity, &c, for 50 lambs? LOCKPORT.

☞ Will some one tell me what is the cause of wool falling off the sheep? M.

THE PARTRIDGE.—I have just caught two young partridges just large enough to fly. Will you or some of your correspondents, tell me through your columns, just as soon as possible, how to tame them—whether anybody ever has tamed them and kept them with hens that were not at all confined in a poultry house? Also, what shall I feed them on? How shall I prevent them from flying away? A neighbor says that, though almost everything else can be tamed, partridges cannot. Now I think it very strange if nobody has succeeded. I hope for a speedy answer, as I fear they will die before long, under my ignorant, inexperienced care of them. G. M. *Newtown, Conn.* [We do not remember to have heard of an instance where the partridge has been domesticated. If any of our readers can throw any light upon the subject, we shall be pleased to hear from them.]

CAKED BAG.—Mr. J. Miller inquires about a remedy for caked bag in cows. We have recently had a similar case, which gave us much trouble. Neither the calf nor our own efforts could do any good until we applied the following: Take a piece of *Polk root*, say one inch square, cut or grate fine and mix into a pail of slops, and give once a day (evening) At the same time take, say half teacupful of *fresh dug* earth, and a tablespoonful of lard—mix the earth and lard well together, and rub the bag gently but well. Continue both for 4 or 5 days; then wait say 9 days, and if it is not entirely removed, apply the same as before. It is proper to say that it has been but a few days since we tried the above; so far it appears to do the business effectually.

Newark, O. R.

SCOURS IN LAMBS.—I lost many last year's lambs the past winter with the scours, owing, as I think, to our open winter, and their feeding on dead grass, &c. All the usual remedies—astringents, antacids, &c., failed me. After a few days the hind legs became stiff, and in two or three days from that time they died. Can you suggest a remedy or indicate the cause? I have good shelter and an abundance of clover hay for feed. J. M. D. *Pennsylvania.*

SEEDING TO GRASS.—I have a low land meadow which I am anxious to seed to red top grass. If it was plowed up directly after haying, would the seed take so that I could get a crop of grass next year, or would it be better to turn it over in the spring and sow the grass seed with oats? I should like to have your opinion on the subject, as well as some others who have had some experience on the subject? C. H. H. *Bridgwater*, *June* 26. [Grass seed may be sown at the close of summer, or early in autumn, to great advantage, if the soil is moist enough, or if there have been sufficient rains. We have often sowed timothy in this way with great success, obtaining good crops the following season. Seeding down with oats is always uncertain—it sometimes does well, but more commonly partially fails. It is better to seed with a thin crop of barley in spring, or with spring wheat.]

CREEPER FOR STONE-WALL.—Will you or some of your correspondents inform me through your paper where and what kind of Ivy to get to plant along a stone-wall about three and a half feet high? The wall is built along the public road or street in our village, and is about three hundred and fifty feet long. If there is nothing like an ivy, what would be suitable? I want to get something that will grow up the sides and along the top. What will do best? Let some one interested answer. J. H. *Geneva*, *Ill.* [The English ivy, which forms so beautiful a covering to stone-walls, is too tender for that climate. One of the best substitutes is the Virginia creeper, sometimes called the American ivy, (*Ampelopsis* of botanists;) the wild Michigan rose is another beautiful plant, especially when in bloom, which may be used for the same purpose; also the Trumpet creeper or *Bignonia radicans*.]

OKRA.—I would be glad if, through your paper, I could learn what use, and how to use the green pods of the okra. C. HAWLEY. [Mr. Buist says—"The green seed pods are put into soups, or stewed and served up with butter. It is becoming very popular with us, and grown to a great extent by some gardeners for supplying the market."]

MILLET.—My experience and observation in cutting millet for hay, is to cut it while the seed is in the milk. C. H.

DOMESTICATING THE PARTRIDGE:—I see a notice in your paper under the signature of G. M., Newtown, requesting some information with regard to raising and domesticating young partridges. I had a young partridge given to me during the summer of 1861, and procured three young Guineas for company for it, and kept them in a bird-cage while young, with a miniature bench with feathers placed in it as a covering for them day and night; their feed consisted of dead flies, which proved sufficient for them, and as they grew we let them out, and the partridge was thoroughly domesticated, and would come any time we called it to eat its feed out of our hands; but after it had grown to a full-sized partridge, it would make long absences, and the next spring it brought a flock of seventeen to the house, but they were wild and run away. IRENE DARLINGTON. *East Bradford*, *Pa.*

FATAL DISEASE IN PIGS.—A singular disease has broken out among the swine in this neighborhood. One of my neighbors lost nearly two hundred very fine pigs. The pigs were taken when three or four weeks old—the eyes and jaws would swell, and in a day or two the jaws became very porous, quite like a honeycomb. They would last a week or two in this condition. Every remedy proved unavailing. Can you or your readers enlighten us as to the disease, its cause, and its cure? J. E. M. *Bushnell*, *Ill.*

POTATO-DIGGER.—There is much inquiry for a good potato-digging machine, and as the season for digging potatoes is fast approaching. I would suggest that those having machines will favor themselves as well as the public by advertising the same. L. D. *Albany.*

HOW TO MAKE CHAMPAGNE CIDER.

In reply to an inquiry from a subscriber at Sonora, California, we republish the following directions furnished to the Co. GENT. some years ago, by Mr. JAS. LEVESQUE of the Island of Jersey:

After the apples are crushed, press out the juice, put in a clean cask and leave out the bung. It will work without anything being put in; in four or five days, draw off, and put into another clean cask. Do this three or four times, allowing as many days between each changing. It does not work well in cloudy weather and so must be left longer. If it does not fine well, it will not keep sweet. To assist the fineing, dissolve 6 ounces of gelatine for each hogshead and mix; do this previous to the last change of cask.

The quality of cider depends on the sort of apples used. Two parts sour apples and one part sweet will make good cider.

Now observe, let there be no time lost in the whole process, but allow sufficient time to do it well. It is the particles of pulp left in the cider that causes it to turn sour. To effect the proper clarifying and working, it will require four changes of cask, that is if you want first rate cider. Do not put any water in any part of the process—have all juice.

After the last change, the cider may remain in the cask, bunged up two or three months. You can then bottle off—lay the bottles down in a cold dark cellar—some will burst, but then you must put up with it. It will be fit to use during the summer, when all parts of the work have been well done. The bottled cider will be equal to champagne, and will keep sweet Some put brandy, rum, gin, or other spirits in—it does not preserve it, but only makes it intoxicating.

If you can get pineapples *very cheap*, two or three crushed up in each hogshead of juice will be a great improvement. If you keep the cider in casks, be sure that they are sound and air-tight, and very clean. Wash out with cold water, then scald out your cask—fumigate with rag of sulphur—melt the sulphur and then dip the rag in; a piece about one foot square will be sufficient for a hogshead—light the rag and then put it in the hogshead—leave out the spile peg only. This will destroy all must or mildew, or any other bad taste in the cask.

Thousands of pipes are exported from this island annually.

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Preserving Fruit in Cold Air.

A late number of the *Gardener's Monthly* contains a report of the experiments of Fletcher, Williams, and Van Camp, of Indianapolis, with Nice's patented method of preserving fruit in air kept by ice within a few degrees of freezing, and rendered dry by chloride of calcium. About a thousand bushels of apples were experimented upon the first winter. They kept till the following June in perfect condition. The following summer small fruits were tried. Raspberries and blackberries kept eight weeks, and then lost their flavor without decaying. Peaches, after ten weeks, showed evidences of decay. Gooseberries, currants and cherries kept much longer. Of pears, two hundred and fifty bushels were tried, of such sorts as Bartlett, Seckel and Flemish Beauty, which, it is thought, may keep the winter through. Grapes, as might be expected, kept a year, but they should, of course, be well grown and thoroughly ripened.

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FREAK OF NATURE.—Mr. N. W. Gray of Coventry, Vt., has exhibited one of the most remarkable specimens of the mutton genus ever seen. The first born of one of his flock was a lamb, with one head, two eyes, three ears, one directly in the top and centre of the head, four fore legs, set in pairs directly opposite each other, two bodies united at the brisket, four hind legs, and two tails. The lambkin had but one heart, one pair of lungs, and lived only two hours.

The Grapevine Beetle and Rose Bug.

Eds. Co. Gent.—Enclosed I send you two different species of bugs that made their appearance in this county this spring for the first time.

The green bug made its appearance first, and attacked our grapevines in the eye or bud when they first began to swell, and would eat out the whole bud and destroy it, and it was with great difficulty that we saved a portion of our grapes by battling and destroying them.

When the portion that we saved from the ravages of the green bug began to bloom, the larger or the brown bug made its appearance by thousands, and attacked them in the blossom, and when out of blossom still destroying the young grapes when almost half grown. My object in forwarding the bugs to you is to know from you or your state entomologist, whether they are common in your section of country; if so, do they destroy the grape there as here, (they are new to us?) If they increase here, we may give up raising grapes. You will please give us some light upon the subject if you know anything about them or their origin.

We have another species of bug here similar to the seventeen year locust, but only about one-third the size, with a long sharp horn on the back of the head or neck about one-quarter of an inch in length. If they sting any limb on a young apple tree to the size of two inches and under, all the limb above the puncture will be dead in twenty-four hours. I have never seen either the bug or their manner of destruction of fruit trees described in any writings or print that I have ever read, only once, about two years ago, I read a piece in the American Farmer of Baltimore, written by a gentleman in East Tennessee, about something destroying his fruit trees, and he did not know whether it was an insect or the fire blight, but I was satisfied when I read the article that it was caused by this same insect.

As soon as I can get one of them I will send you one to examine it.

Cumberland, Md.. July 7, 1863. P. DONAHOE.

The "green bug" spoken of by Mr. Donahoe, is the Grapevine Flea-beetle, *Haltica chalybea* of Illiger, of which in different parts of New-York State there has been great complaint the past and present year, it eating out and destroying the young buds of the grape in the same manner here as in Maryland. A notice of it was recently given in the Country Gentleman, June 4th.

The larger buff yellow beetle is the notorious Rose-bug, *Macrodactylus subspinosus* of Fabricius, the *M. angustatus* of Beauvois and of Dr. Le Conte, who erroneously, as I think, supposes the *subspinosus* to be another species, the *barbatus* of my manuscripts. In Saratoga county, N. Y., this Rose-bug has this year appeared in immense numbers, destroying the young plants of Indian corn in the fields, and, as I am informed, completely stripping the leaves and fruit from the grapevines in some of the gardens at Saratoga Springs. I have given a full account of this insect in the Transactions of our State Ag. Society, 1855, pp. 477—484, and have heretofore noticed it in the Country Gentleman, 1856, vol. viii, p. 75, and again in August, 1859.

I do not recognize the insect which is last alluded to in Mr. D.'s letter, from the statements there made, and shall be very glad to receive specimens of it, whereby, I doubt not, I shall be able to inform him what it is. A. Fitch.

How to Cook Vegetable Oyster.

The way I cook vegetable oysters is to clean them and slice them, and boil in water about 20 minutes; then add half as much milk, and let it boil up and take off and season and use just as you would oysters. Put in butter, pepper, salt and crackers or bread. C. Hawley.

Profits of Poultry Keeping.

Messrs. Editors—Having often seen in The Cultivator, the experience and recommendations of different persons, in regard to the keeping of hens and the profits derived thereby, in solution of the question as to whether it can be made profitable or not, I am tempted to give my experience in the business for one year.

I commencnd April, 1862, with eleven hens. They were a cross between the Leghorn, Black Spanish and Bolton Greys. I kept them shut up through the summer, and they run out in the winter. They raised but 15 chickens; the balance of the time I kept them laying. The result is as follows:

1863.	Dr.	Cr.
April 22d—11 hens, 2s,	$3.67	
Feed for the year,	12.30	
Chickens and eggs sold,	....	$19.04
1863, April 22d—12 Hens on hand, 2s.,		4.00
		$23.04
		15.97
Net profits on 11 hens,		$7.07

I fed them on corn, oats and meal, and in the winter occasionally on "scraps" obtained from the butcher, as a substitute for meat. I think they would have laid better if they could run at large through the warm season of the year.

Ashaway, R. I., July 9th, 1863. L, KENYON.

Trial of Mowers.—A trial of mowers took place at Hurstville, near Albany, on Thursday, the 9th inst., under the auspices of the Albany County Agricultural Society. The ground was level, and the grass (timothy) in good condition. There was quite a large attendance, (between two and three hundred) of interested spectators. The machines entered for competition were eight, viz., Shipman's, manufactured by Shipman & Son, Springfield Centre, Otsego Co.; the Farmer, manufactured by Parmenter & Bramwell, Troy; the Monitor, manufactured by F. Nishwitz, Williamsburgh, N. Y.; the Hubbard Light Mower, manufactured by C. Tompkins, Troy; Wood's Prize Mower, manufactured by Walter A. Wood, Hoosick Falls; Hallenbeck's Mower, manufactured by Hallenbeck & Cunningham, Albany; the Buckeye, manufactured by J. P. Adriance, Poughkeepsie, and the Union Mower, manufactured by the Union Mowing Machine Company, Worcester, Mass. The ground having been previously divided into eight equal portions, (one-half acre each,) the owners drew for their respective stations. All started together at a given signal. The first machine to complete its task was the Farmer, time about twenty-one minutes. We have not yet received the judges' report, and hence are not aware how the prizes were awarded.

Beside the mowers, two other agricultural implements were exhibited; a Double Mold Board Hilling Plow, by R. L. Betts, Troy, and Palmer's Horse Hay Fork, by Van Allen & Pratt, Albany county.

The Babraham Short Horns.—The remainder of the Short Horn herd of the late Mr. Jonas Webb was disposed of on Wednesday, June 24, by Mr. Strafford and Mr. J. Carter Jonas. The "crack" lot of the day proved to be Lord Chancellor, a splendid red bull, calved May 8, 1861. For this there was an animated competition, and the biddings were run up to 400 guineas, Mr. R. Sharp, from the neighborhood of East Grinstead, Sussex, becoming the purchaser at that heavy price. First Fruits, another celebrated bull, went for 170 guineas to Mr. J. Odams. Mr. Clarke Irving from Australia, and Herr Fischer and Herr Gebhardt from Germany, were also among the purchasers, the latter two principally taking cows and heifers. The cows and heifers offered made £2,233, and the bulls £1,222, making a total of £3,455. Including the lots disposed of in April, the entire herd realized £8,027. The flock of South-Downs which conferred such deserved celebrity on Mr. Webb realised £16,000, so that altogether about £24,000 has been derived from the dispersal of his choice animals.—*Bell's Messenger.*

FENCING AND PASTURING.

The time has not come when fences can, in this country, be dispensed with; but it is well to count the cost of them, and their advantages.

The common rail fence, where chestnut rails are plenty, costs about a dollar per rod, as at six rails high it requires ten rails to a rod. Good chestnut rails will last 50 years, and a fence made of new rails will need but little repairs for 25 years. To fence a farm into square fields of 10 acres requires 80 rods to a field, or $8 per acre. Including annual repairs, we may call the cost of fencing a farm in 10 acre fields $10 per acre. In many parts of the State, and with some other kinds of fence it would be more. If divided into fields of 40 acres each, the cost of fence per acre would be but half as much.

At the lowest figure the cost of fencing in the whole country is enormous, but the cost of keeping stock without fences would be greater. Let a farmer imagine himself mowing all his pastures, and carrying the grass to his cattle and sheep. In what proportion of the pasture lands of the State would the grass fill his scythe? Indeed, what proportion is it that could not be mowed at all? I know the advocates of soiling would have all the lands so fertile as to cut two tons of hay per acre, and so smooth that the mowing machine can be used on every part. Let that come to pass as soon as possible.

At present it costs in the whole State I suppose not less than $10 per acre, to fence the land, which is 70 cents per annum. This cannot be avoided at present, and is vastly less than soiling would be.

By dividing the land into small fields the cost is increased, but in a mixed husbandry, and where a variety of stock is kept, and there is a variety of soil, it is desirable that there should be a considerable number of fields. I should think a hundred acres should be in as many as ten fields, and even two hundred acres in a farm may well be divided into fields of ten acres, on account of a suitable rotation of crops, and also for the superior advantages of pasturing. It is supposed that fatting cattle and also cows will do better to have their pasture all in one field. I think this may be so if there is plenty of feed, but is sometimes wasteful, as the rank grass in the richer places will be left, and those places grow richer, while the poorer places, being gnawed closer, will grow poorer. On cultivated land that has been recently seeded, it is better to feed off the grass as quick as possible, after it has sufficient growth to turn in the stock. My practice is to let it get a good growth, then turn in stock enough to eat it off in a short time, first cattle, then sheep, and feed as close as the stock will bear; then take off all stock till there is another good growth. All parts of the field will be fed, and the poorer parts, if any, will become shaded by the new growth, and not suffer by being kept continually bare. This method gives three or four good grass crops in a season. These fields should not be pastured close in the fall.

This method is evidently better for new seeded land, and I think it is better for all pastures, as it gives more forage, and tends more to the general improvement of the land. And I am not sure but it is as well for the stock on a given number of acres.

To follow this plan it is necessary that the land should be divided into a considerable number of fields, the additional expense of which will be paid by the increased amount of forage.

N. Reed.

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Live and Dead Weight of Sheep.—The English rule is to weigh sheep when fasted, and divide the weight by 7 and call it quarters. Thus, a sheep weighing 140 pounds would give 20 pounds a quarter as the dead weight. If the sheep are in good condition this rule is sufficiently accurate for all purposes. Poor sheep will fall below the mark, and extra fat ones go over it.

Caked or Inflamed Udder in Cows.

Messrs. Editors—As the subject of caked or inflamed udder in cows has lately been mentioned in communications from some of your correspondents, I will give you some additional facts of my own experience in the matter. I recently had a severe case of caked udder in a three year old heifer, with her first calf. He period of gestation of 284 days expired on the 25th of May, but she did not calve till the 11th of the present month (June.) For ten days previous to calving her bag was very much swelled, and a part of this time caked badly, and the swelling extended along the belly. One week before she calved her bag had become so full that I commenced milking her night and morning, and continued to do so till she calved. This reduced the swelling and inflammation some, but did not prevent the udder from caking. To remove this I took some lamp or fish oil and rubbed on that part of the bag which was caked; it was applied night and morning, after she was milked, and well rubbed in. After a few applications of the oil the cake or hardness began to subside, and when she calved there was but little inflammation in the bag, and after the calf had sucked the first time the bag felt soft and natural, and has been so up to the present time.

In addition to the treatment already mentioned, two days before the heifer calved I took her from the pasture and put her in the barn, and fed her on dry hay only; this was done to check the flow of milk, and it had the desired effect.

Bacon fat has been highly recommended by those who have tried it for caked udder, the fat to be well rubbed on to the caked part of the bag.

In one or two instances where my cows have had caked bags in winter I have removed the swelling in the bag by rubbing on the fat taken from the vessel in which salt beef and pork had been boiled together with such other articles as usually constitute a farmer's *boiled dish.*

Wherein the virtue is in these articles which I have mentioned, I am unable to say, but in those cases where I have used them, or have known of their being used judiciously, they have afforded immediate benefit, and as some, or all, of these articles are generally to be found in all families who keep cows, they can be cheaply obtained, and easily applied, without risk or injury to man or beast.

C. T. Alvord.

Wilmington, Vt., June, 1863.

P. S.—Since the above was written I have had another three year old heifer come in with her first calf. Her bag did not swell much previous to calving, and was not caked any, but as soon as the milk began to come into her bag it caked quite hard. I made an application of lamp oil to her bag once a day for four days, at which time the cake was all gone, the soreness appeared to be removed, and in a few days the bag assumed a healthy and natural appearance.

A few days since a neighbor of mine told me that a little camphor mixed with hog's lard, and rubbed on a cow's bag when caked would cure it after a few applications.

C. T. A.

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To Prevent Hog Cholera.

Prof. J. B. Turner sends the following to the Prairie Farmer:—Take one peck of ashes, four pounds of salt, one pound of black antimony, seven pounds of copperas, one pound of sulphur, one-quarter or one eighth of a pound of saltpetre. Pound the ingredients fine and mix them well, and keep them constantly in a trough by itself; and each hog will eat what he needs of the medicine from day to day. If predisposed to cholera, they will eat it much more freely than if wholly well; and at such times the expense will be considerable.

DURHAM BULL CALF FOR SALE.

A thorough bred Durham Bull calf of superior quality, and handsome roan color, at low price if taken away soon.

He was got by "Major Anderson," bred by France Rotch, Otsego Co., N. Y., out of "Beauty," a descendant of my imported cow "Bessy," who made 15 pounds of butter per week.

PASCHALL MORRIS,
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July 16—w&mtf.

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HATH ACHIEVED!

THOUSANDS ARE TESTIFYING TO ITS EFFICACY.

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AFTER years of study and experiment by the inventor, to compound from PURE VEGETABLE MATERIALS a Powder that SHOULD and MUST take the place of the thousand and one nostrums gotten up and palmed upon the public as "CERTAIN REMEDIES" for the cure of al diseases which the brute creation are "heir to," he has produced the one heading this advertisement, and none CAN BE GENUINE unless bearing our FAC SIMILE signature. The demand has been such that its sale has been chiefly confined to the State of Pennsylvania, but we have now consummated such arrangements that we are prepared to supply the numerous orders now on hand, as well as those we may hereafter receive from other States of the Union.

Knowing this powder to possess all the curative properties here set forth, we deem a fulsome tirade of words unnecessary, feeling assured that its OWN MERITS will secure for it a ready sale. Being composed of pure vegetable ingredients, it can be safely and judiciously given to that noble animal the HORSE. Its effects are no FALSE PAMPERING of the system. creating a bloated carcass with a premature shedding of the hair; but on the other hand, it strengthens the digestion, purifies the blood, regulates the urinary organs, thereby improving and protecting the whole PHYSICAL condition of the animal even when in an apparently healthy state.

To the Agriculturist and Dairyman it is an invaluable remedy for their NEAT CATTLE laboring under HOOF diseases, HOLLOW HORN, and other of the many complaints to which they are liable from a suppression of the natural secretions.

MILCH COWS are much benefitted by occasionally mixing with their slop or feed—it has a tendency to strengthen the animal, remove all obstructions from the milk tubes, promote all the secretions, and consequently adding much to the strength of the animal, quantity and quality of the Milk, Cream and Butter.

HOGS, during the warm seasons, are constantly overheating themselves, which results in their getting Coughs, Ulcers of the LUNGS and other parts, which naturally has a tendency to retard their growth. In all such cases a tablespoonful mixed in a bucket of swill and given every other day will speedily remove all difficulties, and the animal WILL SOON INCREASE IN HEALTH AND FAT.

☞ For sale by all Druggists and Dealers. Price, 25 cents per package.

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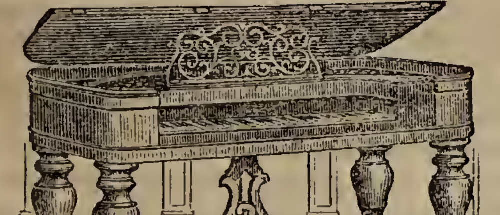
INSULATED IRON RIM AND FRAME



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Roman, Grecian, Indian, Negro, Celestial, Aquiline, Turn-up and Pug Noses, with character of each. EYES, blue, black or gray. LIPS, pale or red, prim or pouting, scolding or loving. MOUTH, large or small. HAIR, light, dark, coarse or fine, straight or curly, CHEEKS, thin, plump, pale or colored. TEETH, regular or irregular. EARS, large or small. NECK, long or short. SKIN, rough or smooth. Illustrated with engravings. The walk, talk, laugh and voice, all indicate character. We may know an honest face from a dishonest one; we will show how. We shall treat of ETHNOLOGY, or the Natural History of Man; of PHYSIOLOGY, the Laws of Life and Health; of PHRENOLOGY, the Philosophy of Mind—with choice of Pursuits, and "How to Improve;" of PSYCHOLOGY, the Science of the Soul. MAN, with reference to all his relations, social, intellectual and spiritual, will be elucidated in the PHRENOLOGICAL JOURNAL. New vol. commences July 1. Handsome quarto monthly, at $1 50 a year. Sample numbers, 15 cents.

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June 11—w3tm2t.

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GOOD PEDIGREES.

A Catalogue will be sent, with prices marked, to any one desirous of purchasing.

Apply at Ellerslie Farm, one mile south of Rhinebeck Station, Hudson River railroad, or by letter addressed to

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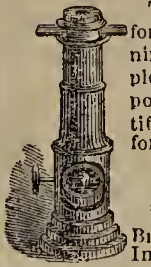
CRAIG MICROSCOPE.



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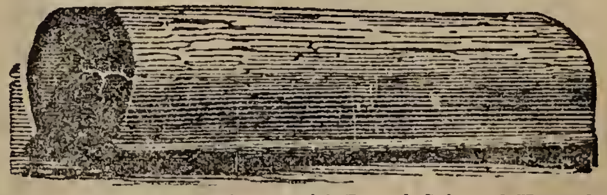

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SOUTH-DOWN SHEEP.
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ONE HUNDRED SOUTH-DOWN EWES AND RAMS.

They are all either imported or directly descended from recent importations from the flocks of the late Jonas Webb, Duke of Richmond and Henry Lugar.

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July 23—w6t. Dutchess Co., N. Y.

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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N.Y., SEPTEMBER, 1863. No. 9.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS PER YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

THE CULTIVATOR has been published twenty-nine years. A NEW SERIES was commenced in 1853, and the ten volumes for 1853, 4, 5, 6, 7, 8, 9, 60, 61, and 62, can be furnished, bound and post paid, at $1.00 each—the set of 10 vols. sent per Express for $7.50.

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The Cultivator & Country Gentleman.

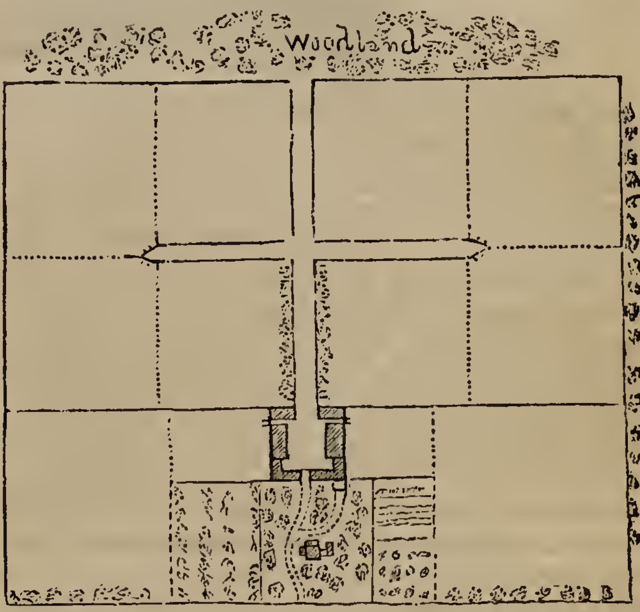
FARM FENCES AND BUILDINGS.

Every farmer is aware that the construction of all the necessary fences, and the erection of the required buildings, need a large outlay of capital. But for the precise amount an estimate is scarcely ever made; guess work and vague conjecture are the only guides, and, as a necessary consequence, the whole is executed without system, and by patch-work and piecemeal. Such management is the most costly in the end; and on the other hand, nothing is more conducive to economy in outlay than previously well digested and systematic plans.

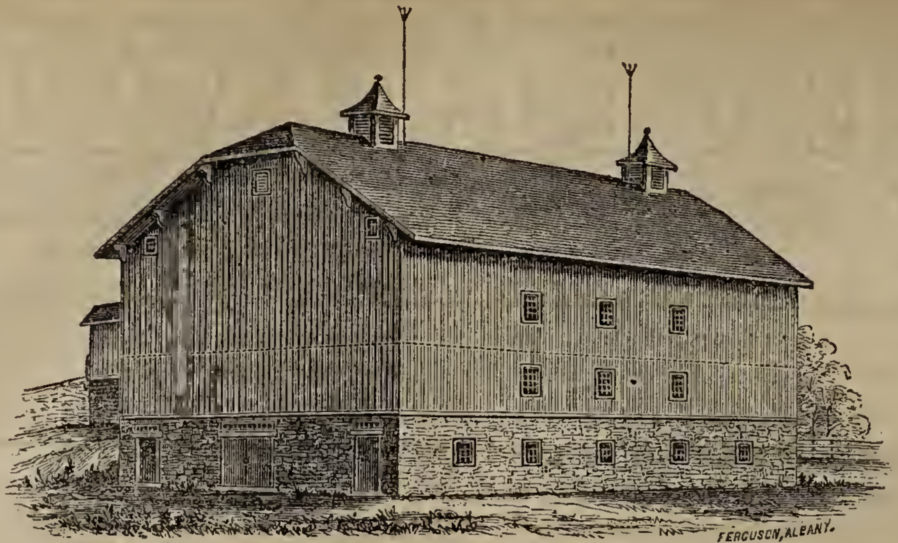
Fencing.—Many old farms are irregularly fenced; but whether old or new, they should as soon as practicable be regularly divided in the best manner. The old fences should be removed when necessary, and new ones erected in the right place. If this cannot be done all at once, it may be performed to best advantage in successive portions by adhering throughout to the plan adopted beforehand. In order to assist in this object, it would be well to examine the principles of laying out farms, which may be found on page 105, vol. 1, of RURAL AFFAIRS, or on page 132, vol. 2 of same work, accompanied with several plans. We copy a single one to show how it may be neatly and regularly done, giving access to all the fields with but a little amount of farm-road.

We will suppose for example that this is a two hundred acre farm, forty acres of which are in wood-land, and the remaining one hundred and sixty, being half a mile square, under cultivation—the question occurs what will it cost to fence the improved part of this farm? And if more than the owner has at command; what part shall he first enclose, until more means are at his disposal?

The boundaries, being half a mile on each side, will be two miles in length, but as the two sides join neighbors, one-half of these two sides will be made by them as line fences, reducing the boundaries to a mile and a half. It will be further found by examining the plan, that two miles and a half more fences are needed for the interior sub-divisions making four miles in all. If those fences cost one dollar per rod, their aggregate expense will be twelve hundred and eighty dollars. Where timber is abundant, common rail or worm fence is made for less; good post and rail fence for seventy-five cents to one dollar; substantial post and board fence can seldom be constructed for less than one dollar and twenty-five cents; and stone wall, the best and most durable of all farm barriers, requires from one to five dollars per rod—the cheapest, well made, half wall, laid in a trench, requires at least one dollar, and good full walls not less than two or three dollars, including all expenses. The lowest average, therefore, is one dollar, as already stated. Now if making these ten fields will use up more means than can be appropriated, the farm may be divided into only four lots, omitting the fences indicated by the dotted lines, and the two side lanes—all of which amount to a mile and three-quarters, and saving temporarily an outlay of five hundred and sixty dollars. These remaining fences may be built on any future occasion, and the whole ten lots completed.



Buildings.—Very few farmers have any adequate notion of the accurate amount of barn room which their farms require. They build a barn of moderate dimensions, and soon finding it too small to hold the crops they raise, erect another, or place a lean-to against it; and subsequently other additions are made, until the whole becomes an irregular mass of buildings, without order, compactness, or convenience, and requiring much more roof and exterior wall, and consequently costing much more than the single, well arranged structure.


FERGUSON, ALBANY.

But asks some one, how are we to know beforehand how much barn room we shall want? It would be a pity to make our buildings too large—and at any rate we must draw our crops into them before we can find out how much space we want. In answer to this question, we admit that a good deal of latitude may be allowed to bad or uncertain farmers, who may raise five bushels of wheat one year, and fifteen another; or cut half a ton of hay this year, and a ton next year—leaving unoccupied space in their barns one season, and requiring stacking out the next. The rules we shall give, cannot of course be accurately applied to such farmers, but only to those instances of good management, now happily becoming very common, where the products for a long series of years are uniformly good or suffer but little variation. For such management we shall give an example.

The farm we have already represented contains a hundred and sixty improved acres, and we will suppose that about one-third each is devoted to meadow, pasture and grain. Twenty acres of the latter may be corn, stored in a separate building or crib, which should have a capacity for a thousand bushels, being fifty bushels per acre. The meadow should afford two tons per acre, and yield about a hundred tons. The sown grain, over thirty acres, may yield a corresponding bulk of straw, or about sixty tons. The barn should, therefore, besides other matters, have a capacity for one hundred and sixty tons, or over one ton per acre as an average. Allowing 500 cubic feet for each ton, (perhaps 600 would be nearer,) it would require a bay or mow about 60 feet long and 20 feet wide, for two tons to each foot of depth. If the barn were of such dimensions as to make the bay of this length and breadth, with twenty feet posts and ten feet basement, about seventy tons could be stored away in a bay reaching from basemeut to peak. Two such bays would be hardly sufficient to hold the products of the 160 acres. Such a building is much larger than is usually allowed, and yet without it there must be a large waste, as every farmer is aware who stacks his hay out; or a large expenditure of labor in pitching and re-pitching sheaves of grain in thrashing. Besides this space there must be ample room for thrashing floor and granaries, and for the shelter of domestic animals. To determine the space required for granaries, estimate all the sown grain, including wheat, oats, &c., at 30 bushels per acre as an average, which would be about 1000 bushels of grain besides the corn. Every farmer who expects to choose his own time for marketing, should therefore have about this amount of space, which would be equal to a range of bins 5 feet high, 5 feet wide, and fifty feet long; this would occupy an apartment about 15 by 25 feet, the bins being on each side of a 5 feet alley. In all three story barns where the grain is let into the bins from the fanning mill above, (as described in the Register for 1862,) they may be higher than five feet, or run up to the floor above, which would reduce the required size of the apartment.

In estimating the space required for domestic animals, including feeding alleys, &c., a horse should have 75 square feet; a cow 45 feet, and each sheep about 10 square feet. It will, therefore, require the entire basement of a barn 50 by 100 feet, to stable 50 cattle, and afford proper shelter for 270 sheep; or adopting the rule of some good farmers, that there should be one sheep for each acre, or 160 for this farm, 900 feet would be left for bay room, or for stabling 12 horses.

We do not undertake here to furnish plans, but merely to show that a single barn, large enough to accommodate the farm here described, could not be less than 50 by 100 feet, when constructed in the three story form, as shown in the accompanying figure, and minutely described in the Register for 1862. The cost of such a barn, according to the rule of allowing two square feet of area for each dollar of cost, could not be less than $2,500, although in some localities it could be erected for $1,800.

There are several other out-buildings that we can merely enumerate on the present occasion; such as corn crib, costing about $200; carriage-house and horse-barn $400; piggery $200; poultry-house and yard $100; smoke-house and ice-house $100, and last and not to be forgotten, dwelling-house and dairy-room, not less than $1500, for such a farm as this. All these improvements would, therefore, amouut to the following sum:—

Fences,	$1,280
Barn,	2,500
Corn crib,	200
Carriage-house and horse-barn,	400
Piggery.	200
Poultry-house and yard.	100
Smoke-house and ice-house,	100
Dwelling-house,	1,500
	$6,280

This is equal to $31 per acre for the whole 200. We have already shown how some $500 may be temporarily saved by omitting the erection of fences—on the assumption that the first of all improvements must be erection of sub-divisions before crops can be raised to meet other expenses. The buildings will be most economical if completed at once. The barn especially, should form one entire whole, in order to save labor in attending domestic animals, transferring hay and grain, threshing, winnowing and filling granaries. When every convenience of this kind is provided, it will save the labor of at least one man required for the same work in detached or awkwardly arranged buildings.

It will be observed that these estimates do not include a circulating capital immediately required for stocking and carrying on the farm—such as for procuring domestic animals, implements, seeds, manure and labor; and which a careful summing up would show to be $3,000 at least for these 160 acres.

Our object in making these different estimates is to show young farmers that they commonly much underrate the capital required for the most profitable and lucrative mode of conducting this business. The consequence is they begin with only half the means they should have at command; and everything is, therefore, conducted imperfectly and at great disadvantage for many years afterwards. It will be found on examination that with scarcely an exception those farmers who make the largest net profits are those who not only raise large crops, but those who provide every convenience for feeding and sheltering their animals, and for storing safely all their products. If this subject were well understood, young farmers would not so frequently run heavily into debt for the purpose of extending their acres, without adequate means to cultivate and manage them to the best advantage.

SAVING SEEDS.

Every farmer should save his own garden seeds. The cost of a new stock every spring from the seedsman is no small item of expense. After once securing good kinds and growing from them in a careful manner, he is sure of having good and reliable seeds, and many varieties of vegetables may be improved by judicious management. But without special care the tendency is to deteriorate, particularly in the hands of unskilled growers. Deterioration arises from two causes, viz., in growing from inferior specimens; and in growing two or more varieties of the same species so near each other as to result in cross or promiscuous fertilization. Many persons who pretend to save their own seeds often gather the refuse at the end of the season, after having gathered all the best for family consumption, such, particularly, as peas, beans, &c. The consequence is, the succeeding crops raised from such seeds are late and of inferior quality. None but the best and earliest products should be saved for seed, and none picked for family use from that portion allotted for seed; always selecting the largest and fairest specimens for planting. In observing this rule, almost every variety of vegetable may be improved in quality and product. For instance, in practicing upon this principle, for a period of twenty years with Lima beans, in saving for seed only such pods as contained the greatest number of beans, we increased the product at least one third. Besides the importance of commencing only with the best kinds and continuing to save only the best specimens for seed, it is also a matter of the first importance that no two varieties of the same family be permitted to go to seed near each other, for they are sure to *mix*, and the product almost always proves of an inferior quality. Degeneration is very strikingly apparent from this cause among such vegetables as cabbages, turnips, beets, raddishes, and particularly among the vine tribe, such as squashes, melons, cucumbers, &c.

After vegetables have thus degenerated, it leads to the common idea that they have "*run out.*" There need be no running out, but on the contrary many varieties may be improved by careful and judicious management. Most plants are fertilized through the agency of bees and other winged insects, and the winds, and it is almost impossible to grow two or more varieties of the same species in the same garden of ordinary size, without liability to admixture or cross-fertilization. The vine family, such as cucumbers, squashes, &c., belong to that class of plants known botanically as *monœcious*, that is, having two kinds of blossoms on the same plant, one possessing the stamens and the other the pistils only. These are probably almost always dependent upon the agency of insects to transport the pollen from one to the other to render them fertile, and when two or more varieties are planted, even at a very considerable distance apart, it is impossible to avoid crossing the varieties. Indian corn, though belonging to the same class of plants named above, produces its pollen, in great profusion, upon the top of the stalk, and being so extremely light and fine it is wafted by the winds to a great distance, and thus produces *mixture.* To avoid this in garden vegetables generally, no two varieties of the same species should be permitted to go to seed in any garden of ordinary size. Professional seedsmen manage to raise different varieties of the same seed in different fields, as widely separated as possible. By thus observing these simple rules farmers may keep up a supply of seeds in a pure state. One variety of the same family may be permitted to go to seed this year and another the next. Most varieties of seeds retain their vitality for two or more years.

EVERGREEN SCREENS.

The rapidity with which these may be formed, when planted of fast growing kinds and kept well cultivated, would surprise some who had never witnessed such results. We lately saw a screen of the Norway Spruce on the grounds of Ellwanger & Barry of Rochester, which formed a beautiful dense wall of verdure ten feet high, and which had been planted only six years. It had, of course, like everything else on their grounds, received good management and good cultivation. The poor success which we sometimes witness and often hear complaints of, is always owing to the neglect which the young trees received.

TO PROLONG FLOWERING.

In order to prolong the flowering season in perpetual and other roses, and in annual and perennial plants, clip off with a pair of scissors the seed-vessels, as soon as the petals fall. This prevents the exhaustion of the plant in the forming of seed, continues its vigor, and preserves a neater appearance of the whole plant. At the same time the use of the scissors will enable the gardener to impart a symmetrical form to the plants.

CULTIVATION OF FRUIT TREES.

The most practicable way to keep fruit trees growing, is simply to put a quantity of the damaged worthless straw of the barnyard around each one every year, sufficient to keep the weeds and grass from growing. This is much easier than cultivating them, and I find by experience they will grow from one to two feet a year, even though the land around them is in grass or grain. I have no trouble with mice, by taking the straw from the trunk in the fall, and placing a small mound of dirt around them.

Seneca Co., N. Y. HENRY VOORHEES.

The Composition and Analysis of Soils.

As you invite the readers of the Co. Gent. to ask questions through its columns, I will ask you or some of your correspondents to give me some information about Chemistry? How are soils analysed so as to know what they require, to produce the greatest results? In walking through a wheat field I find once in a while a bunch as large around as a bushel basket, which is of a ranker growth and darker color than that around it, and also in other kinds of grain, grass and corn. There is something that the plants like and I wish to know what it is. There is a how, and I wish to know what it is. I bought a book, but it didn't contain what I wanted to know. Books generally contain one man's ideas. If I could have some practical information from practical farmers or professors of chemistry, it would be just what I want. Is there any apparatus or what, that they analyze with? In a court of law, if a factory company damages a farmer's land by the running water containing dye-stuff, copper, or any other substance injurious to vegetation, they have the soil analyzed and find that it contains so much per cent. of one thing, so much of another, and so on. Farmers and others please write and throw all the light you can on the subject. Don't give it up after one reply, but all contribute a little, if no more. D. D.

To analyse a soil with sufficient accuracy to render the analysis of any value, requires a chemical education, and considerable apparatus, just as a physician needs an education for his profession, and a large variety of drugs from which his medicines may be compounded. And the great difficulty, after a proper analysis is made, is this—that so many influences, the effect of which the chemist cannot estimate, arise, in farm cultivation, to increase or diminish the fertility of the soil. Thus, when its mechanical texture is just right, when the presence of moisture is regulated by good natural or artificial drainage, and when proper attention turns the whole productive power of the soil to the crop upon it, instead of giving a large area to weeds, a very small per centage of those ingredients most sought for by the plant, will go much farther than an equal or considerably larger per centage of the same elements under contrary conditions. There may be some points that the chemist can prove by analysis, such as the cases of poisonous materials, if added in large quantities; but as a general rule, analysis of the soil is now discarded almost wholly as a practical guide in farming. It is of very great importance in scientific investigations; but even in such plain matters as endeavoring to decide whether a soil requires liming or not, by testing the quantity of lime it contains, we fancy the money an analysis would cost, will go much farther and decide much more satisfactorily, if expended in experimenting with the lime itself.

The truth is that all soils, with possibly very rare exceptions, contain enough of the ingredients of the crops we cultivate, so far as mere *quantity* is concerned, to produce these crops year after year to an almost unlimited extent. The difference in soils arises, therefore, from the different degrees of availability in which their constituents are present, rather than in the relative quantities. When a soil is said to be "exhausted," we by no means imply that the food of plants is no longer present, but that it is not present in such a way that the plant can readily get at it. Thus a fallow for one or more years may add greatly to the productiveness of a field, while nothing has really been added in its composition, and analyses before and after the fallow, would be just alike. So, also, in the often quoted Lois Weedon experiments, it is shown that spade tillage will enable wheat to be grown with heavy productiveness, without manure, for a succession of years; for the reason that the repeated working of the land, by thoroughly pulverizing it and opening it to influences of air and rain, appears to prepare the ingredients required by the plant more thoroughly for its use, and to render a sufficient supply constantly available, which in ordinary field-culture its roots could not get at. Tillage is thus *manure*, in accordance with the derivation of the word, which means to "work by hand;" but we find other and cheaper manures in the contents of our barn-yards, and in such other materials as lime, gypsum, ashes, salt, &c.—the effect of the application of all which, is probably quite as much in rendering elements already present, more quickly and abundantly available to the plant, as it is in the actual amount of what we put upon the field.

The spots marked in our correspondent's fields by ranker growth, probably coincide very nearly with the points at which manure heaps have lain, or with some other incidental cause of greater fertility. We doubt if analysis would throw much light upon them; they should lead him to endeavor to render the whole field equally good, by liberal manuring and draining where requisite. Experiments should be tried, as opportunity affords, with lime or other materials, and those that are found to produce a good effect in proportion to their cost, should be used accordingly.

"Fancy Farming"—Benefit of Example.

"Allow me to suggest," writes an old subscriber of ours, in a private letter, "that, in giving particulars of different farm establishments, it would add much to the interest of the narrative, if it was demonstrated, which, *if any*, was managed at a profit to the owner? There is a large amount of *fancy farming* in our country, and it is well represented in our agricultural papers, and, in so far as the land is made more productive, it and they 'do the State some service;' but, just in proportion as an individual is induced to copy it, it is a disadvantage to him, and hardly worth paying to learn. Some of us old blunderers, who for more than fifty years of practical coaxing, have got Mother Earth at last not only to give two additional blades of grass but *ten*, must be excused if we bite our lips for many whose wisdom is not seen in prifit."

— It is the experience of the farmers who have "tickled dame Nature," to quote Sydney Smith's expression, until she has smiled into more abundant fertility, that we are most eager to obtain; and whether they are kind enough to give us the benefit of it in writing, or to invite us to inspect its results in person, and do the writing ourselves, it is *their* "wisdom" that we want to get at, and that we want to put in print for the benefit of others. It is not always easy to ask a man to lay before you a complete financial exhibit of his position in farming, and permit you to publish it to the world,—but even at this difficulty we have not always recoiled. And we had a fancy that when we wrote of the farming we have seen, a reader could determine, without great difficulty, to which class it belonged—or perhaps, to which class *we thought* it belonged—that of those gentlemen who improve a piece of land in order to furnish themselves with the many luxuries of a country home and the pleasure of doing good in that way—or to those whose lives are devoted to the pursuit of farming, as the merchant's is to the pursuit of commerce, as a real business, in which means and hopes are all invested. If the distinction has not always been indicated quite as clearly as our correspondent would have liked, may it not be for the reason that it does not always exist quite so plainly as one is at first likely to suppose?

Let us see. We have in our mind two cases, but shall mention no names.

One of them is that of a man now beyond the three-score years of the Psalmist. He is one who had reached his legal majority and gone beyond it, before property of any kind was more than a dream before him. But Providence has endowed him with indomitable perseverance and industry; with shrewd common sense; with an aptitude at looking farther about him than others, and with a thirst for knowledge as to what he is about in the present, that shall shed new light upon what he is to do in the future. He has taken a farm on credit, and not only owes the money that it costs him, but it is a farm that only immense labor and patience and skill can subdue, and coax into the reduplication of grass blades and ears of wheat. Nevertheless he sets about the task in earnest. He rises early, and eats the bread of frugality and toil. The money that diminishes his debt is *earned*, and that earnestly. But what he earns, and more that he borrows, he invests as rapidly as his means will permit, in *draining* and *liming* his land. More than this, naturally and by experience, he attains a good degree of judgment in selecting animals that it will pay him to feed for the market, and they become his servants in adding to the fertility of his fields; for he buys them as manure-makers, and sells them at a pecuniary profit, which is second, in his own mind, to that other profit they have left behind them in the barn-yard. The dollars and cents, and labor, which his improvements have cost him, have been distributed over many weary years; they have all been derived from the land itself, together with enough more to surround the evening of his life with the comforts of competence, if not with the luxuries of inordinate wealth. He has, by writing, shared his experience with his brother farmers, and his "wisdom has been seen in print" at the bidding of many other pens than his own. There is certainly not a taint of the suspicion of "fancy farming" about him or anything that is his.

The second case to which we referred, is that of a man not very differently endowed in mental characteristics, whom the fortune of birth had carried into mercantile affairs. Amidst the greater hazards that surround him, he has reached middle life with the prize of affluence in his hands, instead of the blanks of disappointment and failure. He buys a farm, different in many respects from that which the other has so long been working into productiveness—in some possessing greater advantages, in others possibly still more difficult to improve. But he has ample capital; and what thirty years, with their slow gains and careful economies, have placed within the reach of the other, he has been able to obtain in a single season, or in a series of two or three successive crops. He takes land that at a hundred dollars per acre, which its chance situation will enable it to command, pays neither interest nor taxes—on which the farmer who has no capital, or who will not live sparingly and labor early and late to accumulate capital, will only grow poorer and poorer, like the land itself, till the end of the rope is reached. By spending another hundred dollars per acre in similar improvements to those already mentioned—in draining, in fertilizers and so on—each acre is made to pay its way and to return the 7 per cent. over, which the law allows. Time is money, when it is saved. There is no way of counting the actual cost which is expended in the long years of the first instance; in the second case, everything is down in black and white, and this cost looks large: but it is only a condensation into thirty or forty months, of what has before taken as many years; and it is an investment that begins to pay, the sooner and the more carefully and more completely it is made.

Now shall we say that the latter is a "fancy farmer," whose example it is rather dangerous than otherwise to induce others to copy? Wait and see. *Exitus acta probat.* Both these cases are perhaps strongly marked of their kind, but the latter not more so than the former. And the former has been doing its good work for a score or more of years, in inciting to better farming, not in one little neighborhood, but, thanks to the circulation of the agricultural papers, in every State, loyal or rebel, throughout the country. Will the latter example have no similar effect? It is not for us to say what may be its influence upon those who read about it, and about other not very dissimilar cases, in these columns. But this we must affirm; that, if it does not by degrees awaken from their apathy the farmers in its own vicinity, —if it does not prompt them to greater judgment and enterprise in conducting their affairs,—if more farm machinery, and draining tile, and fertilizers are not bought,—if more manure is not made and saved at home,—then we shall lower the estimate we have hitherto entertained of the 'cuteness of the Yankee nation. We never met a farmer who would not like one, or nine, more blades of grass than he now has—we have met a great many who watch very closely all proceedings that will tend to bring them. We are not the apologists of "fancy farming," but, to end as we began, we want the blades of grass, and the experience of those who are making them sprout up; and whether the process is one of years and labor, or of capital and energy, we want to get at it, and hold it before our readers, and set them to doing it—better and cheaper if possible, than any of their predecessors. In a word, it is *good farming*, and not poor—farming that don't run to bogs and weeds—farming that pays for labor, interest and war taxes, (if *they* are not too high,) that ought to be and that we seek to have, "well represented in our agricultural papers."

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☞ The Toronto Globe contains a report of the Annual Reaping Match of the County of Durham, C. W., Agricultural Society, held in Darlington, July 24th, in the presence of 250 or 300 spectators from almost every section of Durham and Ontario counties. Eight machines, in all, were entered, two of them self rakers, and the rest hand-rakers. The judges decided on the first prize to Joseph Hall, Oshawa, for the Brinkerhoff Self-Raking Reaper, which showed superiority of execution in its delivery of the gavels of grain, with the butt ends toward the standing grain, and entirely out of the way of the horses' feet on next round. The other prizes were:

Second prize to H. A. Massey, Newcastle, for Wood's Self-Raking Reaper.
Third prize to Joseph Hall, Oshawa, for the Ohio Combined Reaper and Mower.

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☞ Mr. WM. DUANE WILSON, Secretary of the Iowa Agricultural College, thinks the Wheat crop of that State "this year will be fully one-third larger" than in 1862. The wool crop of the State will be from 1,500,000 to 2,000,000 pounds. Mr. Wilson's opportunities of forming an estimate are very good.

How to Cure Indian Corn for Fodder.

Eds. Co. Gent.—Having received several letters making inquiries in regard to my method of curing corn fodder, I thought, as the inquiries came from readers of your valuable paper, I would give you my method for publication.

In order to have the fodder good, the corn should be cut up while it is yet green—that is, before the leaves and stalks begin to dry up. Any time after the corn becomes hard (or glazed) the corn may be cut without injury to the grain.

I make a stanchion for the shock by tying the tops of four hills together, thus ✕—then the fodder should be set up in the angles as nearly perpendicular as possible. After setting up six or eight hills, the tops should be tied together with a wisp of grass or stalk; this makes a firm beginning for a shock. The shock should contain at least 144 hills, as the larger it is the less proportionately it will be exposed to the weather. Bear in mind that the stalks should be set up as nearly perpendicular as possible. Lastly the shock should be well tied at the top with a band of rye straw.

Corn put up in this manner will not fall down before husking time. I usually husk my corn in from for to six weeks after cutting it up. When the corn is husked, the fodder should be tied with straw in convenient sized bundles for pitching, and it is better to put the stalks from two shocks into one, and tie the tops as before; then, if the weather is dry, it may be hauled at any time and put in *stacks* convenient to barn. There is no safety in putting it in the mow, however dry it may appear, for the pith in the butt of the stalk is a great absorbent, and as long as the stalks stand on the ground it will retain moisture enough to spoil the stalks if put into a mow, but when they are stacked up so that the butts come to the sun and air the stalks will not spoil.

I make my stacks in the following manner, so that we can always haul in an entire stack at a time:—Take a pole, from 4 to 6 inches thick and from 15 to 18 feet long, and set it firmly in the ground; then build the stack around it, laying the tops in against the pole and the buts out, keeping the middle full as in other stacks. At the top I make a cap of a bundle of stalks.

Corn that is sown for fodder should be treated as nearly in the same manner as possible, and you will have good sweet food for your cattle, which they will need no coaxing to eat.

Your motto, in preparing corn fodder for stock, from first to last, must be—"whatever is worth doing at all, is worth doing well." It is no wonder that cattle should refuse to eat stalks, that have stood where they grew till the winds and frosts of autumn have bleached and dried out every particle of nutriment—then cut and thrown in heaps, (they do not deserve the name of stacks,) where they are completely soaked by the rain; then after being husked, thrown into mows or large stacks, where they heat and mould, and only come before the cattle when half are rotten, and the other half tainted with the fumes of that which is fit only for the manure yard.

There is a very great waste for want of care, in the curing of this crop. This year, especially, owing to the drouth and consequent short crop of hay, cornstalks should be secured with great care, and fed in the most economical way. Ira M. Allen. *Stark Co., Ohio, July* 25.

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Good Advice.—Somebody recommends that farmers adorn their homes before they become wealthy, if they ever intend to do it. Beautify with whitewash, hop vines and *healthy children;* afterwards with paint and greenhouses, and statuary and fountains.

ABSORPTIVE POWER OF SOILS.

Editors of Country Gentleman—The article from Prof. Johnson, in your issue of 9th inst., (page 26,) is very valuable. A knowledge of the absorbing properties of different soils, is of the most vital interest to the agriculturist. Some few years ago my attention was called to some observations in nature's great laboratory, upon water of showers. I have my plowing done in lands about twenty-one feet in width, and left with distinct dead furrows, for the crops.

On the North River flats we have quite a variety of soils, from the humus to the coarse gravel, with more or less clay. After a smart shower of some thirty minutes, I went to examine a corn-field, and found on the coarsest gravel the dead furrows were filled with water, while on the fine black mould, and a more compact soil, there was no appearance of water, none having run into the dead furrow. This was the first time my mind was called to the fact that such soils absorbed the whole water of the shower, and that soil stood the drouth best, and it is needless to say was altogether the most productive.

On a plowed field of clay ground, after a shower the land will look perfectly dry, because the water is all absorbed, while on a sandy field it will appear quite wet; yet the water percolates fast through the sand, and not at all through the clay. We have only to put a lump of dry clay into a pan of water, to see the quantity absorbed; and burned clay will absorb the more, because it is made more porous by burning, and thereby exposes a greater surface—so by pulverization it is made to absorb more. Again, we see also the difference between land plowed deep and that shallow stirred. Contrast the plowed field with the highway where the dust, before the shower, was two or three inches deep; after the shower the highway will be all slush, while the plowed field by the side will hardly appear wet.

Much, in farming, depends on pulverization. By pulverization I do not mean stirring with the plow, drag, &c., for that does not reduce the particles of the soil. I know of but two effective agents for that purpose—the frost and fermentation by fresh manures. The frost will reduce the lime and clay gravel, and pulverize the earth. Hard freezing will improve the land although it may injure the winter crop. Then by applying fresh or coarse manure, and plowing the same deep under, make the corn-field the compost bed; stir it during the summer on the surface, but by no means mix it up with the manure for the first year. The gas arising will make the land mellow and porous if not pulverized, so that it will remain an absorbing soil for many years, and stand the drouth well. I have found the decided effect the eighth year.

Whether the growth of vegetation depends more upon absorption or evaporation, is not easily answered; yet no doubt a free friendly commerce between the earth and atmosphere is generally useful, although, at certain times, a prohibitory duty by way of mulching may benefit the plants. Z. A. Leland.

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The Erie County Fair is to be held Sept. 16–18. The Wyoming County Fair is appointed for Sept. 22, 23. The Jefferson County Horticultural Association have a Summer Exhibition at Watertown, July 6–11. The Brookfield, Madison County, Town Union Society have their Show this year at Clockville, Sept. 22–24. The Hartford, Connecticut, Horse Association are to have an exhibition at that city Sept. 8–10.

GRUB IN THE HEAD OF SHEEP.

MESSRS. EDITORS—In the July No. of the Genesse Farmer is an article on Grub in the head of sheep, by Dr. Dadd, in which he says "the only way to prevent grub in the head of sheep, is to put plenty of grub into the stomach of the animal, and that it is a well known fact, that sheep properly attended to, well fed and housed, are never troubled with the parasite known as the grub."

This may, in a measure, be true; but my experience and observation lead me to believe that grub in the head is frequently the cause of disease that terminates the life of the sheep.

Parasites are met with in nearly all parts of the body, not only in the internal organs, but on the external parts; and whether they occupy one part or the other, they are productive of more or less mischief, according to their numbers. It is not to be presumed that two or three worms in the head, or a few ticks on the body, or a dozen flukes in the liver would cause any immediately serious trouble, but what could be overbalanced by judicious care and good feeding.

But a dozen large grubs in the head, or a thousand ticks on the body, or seven or eight hundred flukes in the liver, if they did not kill the sheep outright, might cause disease which good feeding and proper care could not eradicate.

My sheep are well fed and well cared for, and yet they are troubled with the grub in the head, the strong and weak alike—all are endowed with the same instinct to avoid it.

The first cases that I noticed and attributed to grub in the head, were two lambs about ten months old. They came to the barn in the fall in good condition, and were well kept through the winter on good early cut clover. About the middle of March, I noticed their appetite began to fail, and that they seemed to have pain in the head. They continued to eat less and grow weaker until the middle of April, when they died. I examined their heads and found a dozen or more large worms in each, and the cavities much inflamed.

The next was a three year old Merino and South-Down Buck, taken in the same way, with the same symptoms all the way through. His head was examined and found to contain a large number of grubs; it was much swollen and the cavities badly inflamed.

The next was a ewe, eight years old, and with lamb. She died in March last. Her symptoms were the same as the others, only she seemed to have greater pain in the head and occasionally seemed much frightened and would whirl round three or four times. She lived about 3 weeks, the last week eating nothing, lying on her side with her head and nose in an almost perpendicular position, and uttering a groan every time she breathed. I dissected her head and found a dozen large worms and some smaller ones. The large ones were situated in the cells of the ethmoid bone. The parts were badly inflamed, and I came to the conclusion that the disease which killed her was caused by grubs in the head. The sheep was kept on good early cut English hay, with six quarts corn and oats mixed in equal parts, to fifty sheep, with an occasional feed of roots. If she died for want of "grub in the belly," it was not my fault, and the sheep certainly had no disposition to put it there.

I see no reason why œstrus ovis should not persecute healthy sheep as well as the œstrus bovis "healthy oxen by its bites during summer" as Dr. Dadd says in his Diseases of Cattle. He also says the "greater the number of tumors, the more is the strength of the animal diminished by the pain and supuration, and for this reason we should endeavor to free the animal as soon as possible by washing the tumors or forcibly compressing them." Query—why not put "grub into the stomach and 'house' him?"

The Œstrus Ovis, or sheep gad-fly, deposits its eggs in the nose in July or August. They soon hatch and crawl up the cavities of the nose to their future lodgment—sometimes within the fiftieth of an inch to the brain—where they fix themselves to the sides of the cavities, by two hooks protruding from the sides of the mouth. It remains in this position, feeding on the mucus until the next May or June; it then descends from the nose, goes into the ground, forms a chrysalis, and soon changes to the fly, when it is ready to deposit its eggs again and continue its species.

Thus we see that the fly performs his work at a time when the sheep is in the best condition, and housing out of the question. As to housing in winter, farmers in this section would as quick think of going houseless themselves, as of letting their sheep go without good, comfortable barns.

Now, Messrs. Editors, I do not wish to be understood as advocating that all sheep that die, die of grub in the head, or all sheep that eave grub in the head die; but I do believe that fifteen or twenty large worms, distributed in as many cavities through a sheep's head, will produce serious effects, and bring on disease sooner or later. They might cause a pressure on the brain, and inflammation, or coming in contact with some of the nerves which pass through the cubriform plate to the brain. These may become diseased and with disease a loss of appetite.

The animal cannot be induced to take food enough into the stomach to supply the waste of animal matter naturally going on; debility ensues, and the sheep lingers for a while and dies.

I have lost other sheep from other diseases and I generally satisfy myself as to the cause. One died in May last. On examination I found a tumor in the pylorus or orifice that connects the large with the small intestines, which completely filled the passage; but no grubs were found in the head. I think if farmers would examine their animals when they die, they might gain much information, and satisfy themselves as to the disease oftentimes. I consider it useless to doctor ordinary sheep; if they die their pelts bring half as much as the sheep are worth. S. C. PATTEE. *Warner, N. H.*

COWS AND THEIR TREATMENT.

Should a cow be milked before she drops her calf, is a question that was asked not long since in Co. GENT., and answered in another issue that it should be done on no account, no, never. Now I don't presume to be as well posted as some of the correspondents of the Co. GENT., but for the past forty years have had more or less to do with the cow, and from my experience in that time I would not answer this question in the same way this correspondent has answered it. I don't know what objections may be made against milking before, but I think I can remember of a number of instances where I was satisfied at the time it must have been of great benefit to the animal. I will relate one instance. We are now milking a two-year old heifer that dropped her calf since this month came in, which I had milked for two or three weeks previous to her coming in. Her bag seemed much swollen, and as she was gentle, commenced to milk her and continued to do so regularly until she dropped her calf, and have seen no bad effects from it. A. MOSS.

Belvidere, Ill., July 15, 1863.

A WISCONSIN FARMER ON THE GAS TAR QUESTION.—T. P. MEIGS of Waterville, Wisconsin, writes to the COUNTRY GENTLEMAN on this subject as follows:—"Having seen several articles in your paper deprecating the use of "Gas Tar on Seed Corn," I thought I would relate my experience. I planted about twelve acres of the tarred corn, and it all came up within a week. Neither birds or gophers troubled it, while our neighbors had to be "on picket" daily from sunrise to sunset, using up all the ammunition in the place, and still lost from one-tenth to one-half of the corn. One person had fifteen acres nearly all taken by pigeons one morning at sunrise. I soaked my seed-corn twenty-four hours in warm water, and then applied the gas tar."

FINE PULVERIZATION OF MANURE.

There is no part of the management of manure more important than its fine pulverization, in connection with its fine intermixture with the soil, and no part is more imperfectly appreciated and more neglected. It is a common practice to spread manure in lumps, or in unbroken masses of fibrous material, and in this condition to plow it into the soil. It requires but a moment's reflection to perceive that such a coarse conglomerate of large lumps of manure and of large clods of earth, are quite unfit for the fine, delicate, thread-like fibers constituting the rootlets of plants, to extend through in search of nourishment. But let these crude materials be both ground together to a fine powder and properly moistened, and they will at once promote luxuriant growth. The pile of large clods can do nothing towards retaining moisture; but finely pulverized, they become at once as a sponge. Practical farmers have often remarked that the application of manure has served to increase the dryness of the soil in times of drouth, and sometimes even to lessen the amount of the crop. This would not be the case if thorough intermixture had been attended to; but the manure on the contrary, would increase the growth of the crop, both by the additional nourishment afforded, and by the increased retention and supply of moisture.

The importance therefore of finely breaking all the manure applied to the soil, and intermixing it well by repeated harrowings, cannot be too strongly impressed on the mind of every cultivator. Various means may be adopted to reduce manure to a fine condition. If coarse or composed largely of straw it must be rotted, by placing it in large heaps to remain several months, cutting down the outsides with a hay-knife after the lapse of a few weeks, and throwing the trimmings on the top. If there is not enough straw to retain the volatile portions, then thin layers of loam, turf, muck, or peat, must be placed with the manure—thus forming an excellent compost heap,—the amount of loam or other absorbent to be regulated by the quantity of straw which the manure may already contain. If the fresh manure is nearly clear dung, it should have one-half of its own bulk to retain the volatile parts; but this again must vary with the amount of clay it contains—a heavy loam being a better retainer than a light one. A dry material, as loam or peat, is also a much better absorbent than a wet one. All these different things are to be taken into account, and the judgment properly exercised in determining how much of absorbing material is to be placed in mixture with the manure.

Where straw is largely used, it would obviously require much less rotting down if the straw could be run through a straw-cutter and chopped short before used as litter. Cornstalks are especially troublesome when mixed with manure; the straw-cutter therefore becomes particularly useful in chopping them up before spreading them over the yard.

We know a very successful commercial gardener who keeps one of his many hands constantly employed, year in and year out, in mixing and working down fine composts; and the eminent success in all parts of the establishment proves the wisdom of the practice. Farmers cannot, however, especially at these times, mix and break down their compost heaps by hand; they should therefore make them in the form of long and low parallelograms, on which a yoke of oxen may be used for several days in plowing, harrowing, and commingling all the parts until they are nearly as fine as flour. After the manure is spread upon the soil, and before plowing in, great benefit is derived by thorough harrowing with the top soil, thus breaking finely both the manure and the soil, and mixing them well together. Another way for the perfect diffusion of the manure among the particles of earth, is to spread the manure in autumn, so that all the rains of this season may dissolve the soluble portions and carry them down among the particles, where they are absorbed and retained for the growing crop.

In experiments which we have witnessed, where the manure for the corn was thus applied in autumn, it has afforded a yield of about seventy bushels per acre, when the same amount applied in spring gave only fifty bushels. A thin coating of manure applied to winter wheat at the time of sowing, and well harrowed in, has increased the crop from seven to ten bushels per acre—and in addition to this, by the stronger growth it has caused, as well as by the protection it has afforded to the surface, it has not unfrequently saved the crop from partial or total winter-killing.

In cases when it is necessary to apply coarse manure at once, much may be done in lessening the evils of coarseness by artificially grinding it into the soil. The instrument called the drag-roller,—which is like a common roller set stiff, so as not to revolve,—has been used to great advantage for this purpose, by passing it over the surface in connection with the harrow. We have known this treatment to effect a thorough intermixture, and to more than double the crop obtained by common management with coarse manure.

YEARLING MOTHERS.

The early maturity of the Alderney stock has long since ceased to be a matter of curiosity with those familiar with that breed of cattle. The mother of 13 and 14 months is no longer regarded as *precocious*, but looked upon as a common animal, and unworthy of any particular regard. I raised a heifer last season, half Alderney and seven sixteenths Ayrshire, which was one year old on the sixth of May, 1863, and on the 8th,—at one year and two days old—she dropped her calf, which is really a very nice animal. On the 21st of July, I had another come in, at 12 months and 27 days; and by the time these little cows are two years old, I intend they shall become *Grandmothers;* for it has been almost universal with me to have them seeking the males before they were *three months old.*

Some may regard this early breeding as injurious to stock; but I question it, if *milk* is the object.

The earlier we excite the mammary glands, like all other glands or parts of the system, the more fully will they be developed; and the greater the development, the better milkers they will make. It is very true, it may lessen the size; but what of that? Dairymen do not care so much about the size if they get *the milk.* And then these *miniature* mothers are decidedly pleasant little creatures to have around. They are as docile as kittens, and insist on your kindly notice whenever you come into the yard where they are. I shall let the calf take a part of the milk this season, presuming that it will *strip* quite as clean as myself. How much my share will be I cannot say; but as yet, I have succeeded in robbing her of from 6 to 8 quarts a day. A. J. SANDS.

Bainbridge, N. Y., July 30th.

THE HAMBURG EXHIBITION.

PRIZES TO AMERICAN EXHIBITORS.

We have correspondence in several of the daily papers during the past week, from the Hamburg International Exhibition. It has evidently been successful for the intended purpose—to draw a large number of people to that shrewd and enterprising city; and, while the weather was somewhat unpropitious, we have seen nothing to show that the heavy expenses incurred will not be reimbursed by the receipts of the exhibition, thus leaving the large amount of money expended by the hosts of visitors, as so much "clear profit" to the place. That the exhibition was a speculation of this sort, has been evident from the beginning. Accounts of it, both in English and American papers, complain of extortionate charges. But so long as German *purchasers* were sure to be present, it was well enough that American manufacturers and inventors should be represented, and, unless the statements received are somewhat "rose colored," there may be room for regret that more of them were not there, prepared to do a little business with the German and Danish and Russian proprietors.

The following is the list of awards to American exhibitors as far as made public—no official list having yet appeared:

1. C. H. McCormick, of Illinois, for the introduction and perfecting the best reaping and mowing machine, a gold medal.
2 Seymour & Morgan, of New-York, for an Improved reaper and mower, a large silver medal.
3. Thompson & Avery, of Pennsylvania, for an improved horse power, with a threshing machine, a silver medal.
4. John Kelsey of Pennsylvania, for an improved harrow and other implements, a large bronze medal.
5. George Campbell of Vermont, for Willard's patent root cutter, a large bronze medal.
6. Whittemore & Belcher of Massachusetts, for an assortment of agricultural machinery, a large bronze medal.
7. John Vanderbilt of New-York, for an assortment of agricultural machinery, a large bronze medal.
8. James A. Saxton of Ohio, for Ball's mower and reaper, a large bronze medal.
9. Solon P. Hubbell of New-York, for an improved broadcast sower, a large bronze medal.
10. John W. Free of Indiana, for a superior fanning mill, a large bronze medal.
11. L. P. Rose of Michigan, for a superior and elegantly finished set of garden implements, a large bronze medal.
12. E. C. Taintor of Massachusetts, for improved machinery for planing, mortising, and tenoning, a large bronze medal.
13. Hale & Spier of Pennsylvania, for an improved new frame plow, a bronze medal.
14. Johnson & Co. of New-York city, for washing and wringing machine, a large bronze medal.
15. Geo. Campbell of Vermont, for Spanish merino sheep, first prize of fifty thalers for the best buck; one prize of twenty-five thalers for the second best buck; one first prize of fifty thalers for the best ewes.
16. H. G. Hotchkiss of New-York, for the two best samples of essential oils, a large bronze medal.
17. Hale Parshall of New York, for a sample of the oil of peppermint, a bronze medal.
18. John H. Redstone of Indiana, for improved lumber and timber sawing machine, a bronze medal.

A model of an improved machine for gathering and pitching hay, an invention of Mr Fowler of New-York, was exhibited to the committee; also a model of an improved hay and cotton press, by Mr. H. A. Schuerman of Louisiana, which would have received medals but for the rule excluding models from the list of premiums.

It is also stated that a premium was awarded on some bouquets of dried grasses and flowers, which were sent over, we believe, together with a collection of grains and seeds, from the Agricultural Rooms in this city, and were the handiwork of Mrs. J. T. Van Namee of Pittstown. They seem to have attracted great attention.

As to the Gold Medal awarded to Mr. McCormick, we find the statement in foreign papers that it was "an honorary distinction conferred on that gentleman as being the introducer of reaping machinery on to the Continent, and not, as some suppose, awarded in connection with the trial of reapers which took place" during the week,—but which seems not to have been very satisfactory to anybody.

The correspondent of the New-York Evening Post has the following remarks on Mr. Campbell's Sheep prizes:

"Mr. Campbell of Vermont wins premiums for the best ewe and the best two bucks, and in consequence of some dissatisfaction on the part of European exhibitors, Col. Needham, the Vermont Commissioner, proposed a sweepstakes premium of $100, himself to pay $10, Mr. Campbell $10, and each of the dissatisfied German and French exhibitors to pay the same. A jury was then to be selected by the Association, and the sheep to be sheared on the ground, in the presence of the jury, and the sweepstakes to be awarded to the heaviest fleece, allowance being made for the respective weight of body; but the complaining exhibitors declined this proposition, thus practically acknowledging the justice of the decision of the jury in favor of the American sheep."

The correspondent of the Tribune says on the same subject, that "the entry of twelve American sheep was made public through the press of Germany several weeks before the Fair, and it was regarded as a great joke that America should for a moment think of competing with Germany in sheep. But the competition has been eminently successful—and the long faces of the other exhibitors indicate their mortification and disappointment."

At the same time with this Exhibition, an International Congress of Veterinary Surgeons was held in Hamburg. Daily meetings took place, which were attended by from 50 to 100 professors and practitioners from all parts of Europe. Professor Hering of Stuttgardt, was chosen as President; Professor Gamgee, of the New Veterinary College, Edinburgh, the orginator of the congress, was appointed vice-president; and other professors were selected to constitute a committee, and to act as office-bearers of the present and future Congress. Various Governments sent representatives to the congress. Four were sent from Russia, three from Austria, two from Bavaria, two from Prussia, and others from Sweden, Norway, Denmark, Hanover, Saxony, Wurtemberg, Switzerland, &c. The principal subjects discussed were the "Russian plague" or "steppe disease" in cattle and sheep, pleuro-pneumonia in cattle, smallpox in sheep, and the sanitary measures which should be taken on the part of the authorities against the dissemination of these and other contagious diseases.

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Lime on Hay and Straw on Bogs.

Eds. Co. Gent.—Many of the readers of your extensively circulated paper may not be aware of the important use of air slacked lime in curing hay. An old farmer, John K. Defreest, who has thus successfully used lime for several years, induced me to try it. About two quarts is thrown broadcast over each load as it is being mowed away. It seems to absorb the moisture, prevents any moulding, and I found last winter that my cattle ate the hay with a greater relish than usual. The horses too seemed to thrive. I take it that the lime dust thus strewed on the fodder helps the making of bone, and thus strengthens the frame of the animal.

I have abandoned the old custom of sprinkling salt on hay as it is being stored away. It *moistens*, whilst lime dries out that excessive moisture from which almost every load gathered thus far this year has suffered.

I take this opportunity of recommending from my own experience the use of straw to effectually destroy bog. As an economy, take the rakings of rye and oat fields, which are of little use after being threshed, and spread them thickly upon bog land. This covering, by excluding the air and sunlight, I found very effectually rotted the tops, which disease in the head was soon imparted to the roots, and in one season I thus obtained easy and undisputed possession of a piece of land which for many years had been under the complete control of bogs, and quite worthless. It is now easily worked and valuable.

DeFreestville, Aug. 1, 1863. D. W. C. DeF.

The Peach Borer.

If tobacco stems can be procured, a few of them put at the base of the tree in the spring will prevent the borer harming the tree. Ashes and hog manure are said to be equally efficient.—*Exchange.*

Such remedies as the above often go the rounds of the papers, and are similar to the attempts to repel the curculio by bad smells, drive away birds with scare crows, and kill wire worms and grubs with a few bushels of salt per acre, amounting when dissolved to a ten thousand part of the soil. One quarter of the time needed for placing and keeping these tobacco stems around the trees, would enable an active man, with the point of a knife, to dig out of the bark, and kill every borer they contain. Repellants for insects are commonly entirely useless; destructives,—such as kill at once, are the only proper remedies.

Protection from the Cut Worm.

We have recently seen a mode for preventing the cut worm from destroying young recently set cabbage plants, consisting of wrapping a piece of stiff paper around the stem when the plant is set out, so as to extend a little above and an inch or two below the surface. We have adopted this mode more than twenty years, although it is now recommended as new, and we can vouch for its entire efficiency. Thick writing paper appears to answer the purpose best, and old letters may be torn up and employed. Stiff wrapping paper and even burdock leaves have answered about as well, the object being merely to place a protection about the stem where the cut worm usually assaults it.

PREPARING SEED CORN.

I have seen several articles in the Co. Gent. describing various applications for protecting seed corn from the depredations of birds and insects, with a supposed object in view to hasten germination and accelerate the growth of the plant. Common tar and gas tar to coat the seed, and various chemicals for a solution or wash, roll in plaster, lime or soot, have been recommended by different persons as a sovereign remedy.* Now whatever amount of fertilizing matter may be taken up by the seed by absorption or coated on the outside, will soon be diluted by the moist earth. I have never used any of the above applications to any extent, and have long since come to the conclusion that it was best to plant the dry seed in a careful manner, and let the soil do its office work as best it may.

A brewer in Philadelphia once asked Dr. Franklin how he should prevent the boys from taking his beer in his back yard—replied, set a cask of old Jamaica beside it, and the beer will not be molested. I, instead of putting up all manner of devices to scare the crows off of cornfields, sow corn broadcast over the field just as the young blade is coming up, and renew it if necessary till weeding time, with as little loss as any other way. H. Walker.

FARM CARTS.

Messrs. Editors—I have been using a cart similar to one described by D. D. of Fall river, Mass., in vol. 22, No. 1, page 17, of the Co. Gent., attached to the fore wheels of a four horse wagon, for some time, but which I think is much more simple in its construction than either fig. 1 or fig. 4 of friend D. D.

First, make an axletree similar to a cart axletree in every respect, with eyes to receive the body to fit the hind wheels of your wagon; then cut a young white oak about 5 inches in diameter at the butt, and 6 feet long; rip one end with a hand saw 4 feet back, and open it with a large wedge, (just as you would a common cart tongue,) having first put an iron band around the stick where you stopped sawing (an old hub band answers every purpose) to keep it from splitting any farther; cut a tenon on each end of the fork to fit in the mortice of the cart axletree, flatten the other end so it will work in the front axletree of the wagon in the place of the coupling pole; bore a hole to receive the body bolt; pin a 3 inch pin on the top of the stick, just where the front of the bed rests, in order to raise it so that the front axletree will not strike in turning; put on the cart body, and you have a cart that can be drawn by horses, which you will find very convenient for many purposes, especially in hauling out manure where you put it in piles, as it will dump as readily as any other cart, and similar to the one shown in fig. 1, except the seat in front.

But if you have an ox cart with an old tongue to it, just cut off the tongue to 6 or 6½ feet, flatten and bore the end as described above, and you have a cart without the trouble of changing the wheels every time you want to use it. J. P. S. *Glenville, Md.*

Wind-Gall and how to Cure it.

Messrs. Editors—A gall is a swelling that appears on each side of the back sinew above the fetlock, and injures the sale of many a fine horse. Many people puncture them, which is a wrong thing, as it often produces an incurable lameness. I had a very fine horse, which was injured by the same thing. I tried many remedies which I saw recommended in papers, and never found one that cured him. In fact, found more that injured him than there were that done him good. I at last thought kerosine oil might do good, and so I made the trial. I had not used the oil but a few times, and the gall entirely diminished.

Procure the best kerosine oil possible, and bathe the spot two or three times a day, until you see the gall has diminished. Dip the end of your finger in the oil, and rub it in well. Then put a tight bandage of cloth around the gall. Be careful and not let the oil spread more than necessary, for if allowed to run down in the fetlocks it will cause a bad sore.

If the gall be a bad one, and the oil should cause a sore, heal with Green Ointment, made as follows: Two ounces of beeswax, two ounces of rosin—when that is melted put in half a pound of hogs-lard, and four ounces of turpentine, and to this add one ounce of powdered verdigris—strain through a clean cloth, and it is then fit for use. E. C. K. *Cape Vincent, N. Y.*

National Veterinary Association.

A convention of regularly educated veterinary surgeons was recently held in New-York, for the purpose of adopting such measures as might be deemed expedient in order to elevate their calling to that dignity to which it is entitled, and for the exclusion of quacks and quackery therefrom. During the week the organization was perfected. After adopting a constitution, a ballot for officers was had with the following result: *President*—Dr. J. H. Stickney, Mass. *Vice Presidents*—R. H. Curtis, N. Y.; W. Sanders, Mass.; E. Ripley, Maine; W. A. Wisdom, Del.; G. W. Bowler, Ohio; R. Jennings, N. J.; W. T. McCoun, N. Y. *Secretaries*—A. Lieautard, N. Y.; R. Wood, Mass.; I. Mitchiner, Pa.; T. C. Walton, N. Y. *Treasurer*—A. S. Copeman, N. Y. After appointing a Board of Censors to examine candidates desiring admission to the Association, the meeting adjourned.

A New-York versus a Scotch Dairy.

Eds. Co. Gent.—In a recent number of the Co. Gent. you publish, from the North British Agriculturist, a valuable table, exhibiting the results of the dairy operations of Mr. Harrison of Frocester Court, Scotland, for the years named. On reading over this table I turned to the books of my dairy farm at Prattsville, in order to ascertain how much, if at all, Prattsville was behind "Frocester Court" in the business of the dairy, and I give you below the following gratifying result, for the benefit of the North British Agriculturist, and all concerned :

Comparative Yield of Milk from the Dairies of Mr. Harrison, Frocester Court, Scotland, and Z. Pratt, Prattsville, New-York.

Year.	No. of cows.	Dairy of Mr. Harrison,		Dairy of Z. Pratt.		Total difference in galls.	Difference per cow.
		Total in gallons.	Per cow in gallons.	Total in gallons.	Per cow in gallons.		
1857,	55	31,728	577	35,023	636	3,295	59
1858,	52	28,247	447	33,858	651	5,611	204
1859,	60	32,009	533	36,097	601	4,088	68
1860.	66	34,470	522	34,676	525	206	3
1861,	71	38,831	550	40,187	566	1,356	16

So much for the dairies of Scotland and New-York compared. In the number of the Co. Gent. for July 9th, which I have been reading, I find quite an interesting communication from Mr. C. T. Alvord of Wilmington, Vt., on the value of the "Ayrshire Cows for the Dairy," in which the writer proceeds to give valuable statements regarding the quantity of butter yielded by a given quantity of milk of Ayrshire cows, from six different Scotch dairies, the proprietors of which are gentlemen "whose great experience and high respectability are sufficient guarantee for the integrity of these statements." It is unimportant to reproduce Mr. Alvord's table here. I quote only his summing up of the result in his own words, viz :

"This is a little more than 2½ gallons of milk to one pound of butter, as the average of the Ayrshire dairies." And I will add a very gratifying result : but, Messrs. Editors, my dairy farm book shows an equally gratifying result obtained from a large number of the common native breed of cows, now feeding on hills which but a few years ago were covered with a dense hemlock forest. Thus in 1861 my dairy yielded an average of 10 42-100th quarts of milk to one pound of butter ; and in 1862, 10 10-100th quarts of milk to one pound of butter.

We are not favored in the communication of Mr. Alvord with the number of Ayrshire cows to each of these Scotch dairies—an important omission, as I think, for it is not impossible that these dairies were stocked with selected cows, cows not altogether unlike those which Mr. Alvord informs us Mr. Prentice of Albany owns. A neighbor of mine has a native cow which has produced over 400 pounds of butter per year, and this without extra feed.

Now my cows are natives to the hills of Greene and Delaware, bought from my neighbors, the farmers of these counties, and they cannot boast of "blood" and careful "bringing up." I have yet to learn that they will not produce as much profit to the dairy farmer as the Ayrshires, or other breeds.

In conclusion let me add that the secret of success in butter making, as in all other business, is good grass and constant attention. Z. Pratt. *Prattsville, July*, 1863.

In connection with the foregoing, and to show the scale on which dairy farming is being conducted the present season on Col. Pratt's farm at Prattsville, he kindly sends us the following extract from the local paper :

One Day's Work on a Dairy Farm.

Thinking it might interest our readers to know what amount of work may be accomplished on a large dairy farm, where everything is systematized, in a single day, we have obtained from Col. Pratt's farmer, Capt. Newcomb, the following account of labor performed with accompanying results, on his dairy farm, (which produces 20,000 pounds of butter yearly,) on the 1st day of July. The persons employed consist of three men, three women and three boys, who rise at 4½ o'clock A. M. The day's work for the men and boys commences, 1st, by driving in from pasture *ninety* cows, and putting them in the stable ready to milk. 2d. Feeding and watering horses, bulls, calves, 49 hogs, 130 turkeys and 120 chickens.

Milking cows begins at 6 o'clock and finishes at 7½ o'clock. The cows are then let out to pasture, the stables cleaned, and everything ready for field work at 8½ o'clock, when the weeding of the carrots and hoeing of corn and potatoes commences. Between 11 A. M. and 2 P. M. three swarms of bees (50 hives) have been hived. Dinner at 12 M.; after dinner the horses, &c., are fed and watered, and all is ready for field work at 1½ o'clock. At 4 o'clock start for the cows, and at 5 o'clock they are all stabled, ready for milking. Supper at 5 o'clock, and at 5½ milking commences—milking finished—sixty pails full are carried to the dairy. At 7 o'clock the cows are let out of the yard and driven to their night pasture. The stables are then cleared, the horses, bulls, calves, hogs and poultry fed, and firkins opened.

We have so far given an account of the men's work done, we now proceed to the female management of the dairy : Three women are employed, two in the dairy room and one at housework. The day's work begins by the two skimming milk, while the third prepares the breakfast for 5½ o'clock. Milking begins at 6 o'clock, and is finished and the milk carried in by 7½ o'clock. The milk obtained this morning was 631 quarts, equal in weight to 1,228 pounds. When the milk is brought into the milk room it is strained into large cans, then dipped by the two women and the two boys, and put into pans and placed upon the milk racks, and while the milk pails, cans and strainers are being washed, the churns well filled with cream, two in number, each the size of a barrel, and worked by water power, are set to work. The number of pans of milk skimmed this day is 509. Near to the churns, and in the churn room, is a wooden tunnel, in the bottom of which is a trough leading under ground to the hog pen, and as fast as the pans are skimmed the refuse milk is emptied into this tunnel, and by the trough conveyed to a milk reservoir in the hog pen, from which the hogs are fed as required. The cream skimmed from these 509 pans of milk made 123 pounds of butter. The newly made butter is now salted, the milk house scrubbed, the pans and churns washed and carried out to the air and sun to dry.

Next in order is the working and packing of the butter churned the day previous. Hot water is now put in the firkin last opened, and brine is changed from one firkin to the other, and the empty firkin rubbed with fine salt and got ready to receive the packed butter. It is now 5 o'clock in the afternoon, and all hands go to supper, and at 5½ o'clock the milking commences, and by 7 o'clock has been carried to the milk room. Then follows the dipping and putting into pans, and placing the pans on the rack, as before stated, and this by the washing of the pails and strainers, and at 8 o'clock the work of the day is done. This day, (July 1st,) from 90 cows, 111 pounds of butter were made.

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Introducing Italian Queens to the Native Stock.

Mr. Aspinwall gave us near the end of last season, a new method of introducing queens, which has proved so satisfactory in the few trials that I have given it, that I think it safe to recommend for further trial at least. It is so little trouble in comparison with caging the queen in wire cloth and having her and the bees become acquainted through it before allowing them together, that it should be known. The colony to receive her should be prepared the same as if she was to be introduced the old way. With this method I take away the native queen, and at the end of the week, take out and look over the combs, destroying all queen cells. Then completely besmear the queen in honey and drop her among the bees. They immediately commence licking the honey, and seem to forget all about stinging her M. Quinby

RELIEVING CHOKED CATTLE.

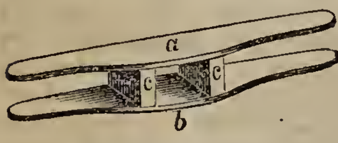
As the season is approaching when cattle often become choked by picking up fallen apples, or by being improperly fed with whole potatoes, we copy the following remarks by a correspondent of the Boston Cultivator. Apples are the most dangerous on account of their smooth skin, which causes them to slip down the throat:

"There are several ways used for relief, among which are, forcing the substance down with a stick, firing a gun under the belly, holding up one leg while the animal attempts to walk, crushing the offending substance by two mallets, &c.

"But are they sure and ready means of relief? A writer on the subject thinks not. I once saw a fine cow relieved at night by the first method, which died before morning, the stick having passed through the gullet. I have seen the fourth method work well in crushing apples, but should think potatoes too hard. The other methods I have not proved, but will give one that I have proved, having relieved several within a few years, and two last fall. It is easy, safe and sure, not requiring more than two minutes.

"Tie up the animal with its nose inclined upward, either by a rope around the horns and head, or by two strong men holding it. Let a strong man with his thumb and fingers placed below the substance in the gullet, force it upward to the mouth as far as possible, keeping the grasp, and pressing the wind-pipe at the same time, causing a cough, by which the apple or other article is thrown into the mouth. This I have not known to fail."

We have never tried the method recommended by the above writer—perhaps it might succeed well when the large substance is near the upper part of the throat. But we have used another mode which has never failed. It is extremely hazardous at best to attempt to ram the substance down the throat, unless it has already passed far down and a soft and flexible rod is at hand. Uusing a stick or whip handle for this purpose, commonly tears or penetrates the gullet and proves fatal. Crushing the apple or potato by striking outside, is certain death unless it be extremely soft—as it always incurably bruises the throat. The method we have adopted in all cases with success, is to extract the substance by running the arm down the throat and seizing it with the fingers. For this purpose the jaws must be held firmly wide open, to prevent all danger of biting. The annexed figure represents a simple instrument used for this purpose, which may be made in a few minutes, and should be always kept on hand by those who are not vigilant in excluding whole apples or potatoes from their animals. It consists of a strip of board made of hard wood, *a*, about two feet long and three inches wide, shaved or rounded at the ends so as to form handles. Two wooden blocks, *c*, *c*, are placed between this board and a similar board, *b*, so as to leave a hole or space just large enough for the hand and arm to pass through. These boards should be firmly nailed to the blocks. In using it a man stands on each side of the animal, and holds the horns, while the mouth is crowded open and the instrument held firmly by the handles. A third person, after removing his coat and rolling up his sleeves, thrusts his arm nearly full length down the throat and removes the obstruction. An active half grown boy, whose hand is smaller than that of a man's, usually succeeds best. The whole may be done in less than a minute's time—the writer has often performed this task without any inconvenience.



Trunnel and other Rail Fences.

Eds. Co. Gent.—I notice in your issue of July 2d, a description of what we call a trunnel fence, and how to make it, by a Maryland Farmer. Being somewhat acquainted with that kind of fence, having had it on my farm to some extent for fifteen years, the fence being built by my father, where we could not make the ordinary worm fence with long rails, for one reason, and as another reason, because he could work more timber into rails out of tree, by making a short rail of six feet where he could not get a length of twelve feet long. We always make our rails twelve feet long. I am of the opinion of the writer, that it is a very good fence. But as I have adopted another mode of making fence with rails, which I think preferable to that style of fence, I will give it to you, as I have seen none in any other section of country.

I stake out my fence as for a board fence, and set posts 2 feet in the ground, just 11 feet apart. I then take a stake split for the purpose, smaller than the trunnels, and sharpened at one end, and drive it into the ground opposite the post already set. My posts are four and a half feet high, which is intended to be the height of the fence. Then I split blocks about 4 inches thick and 8 inches wide, and put them edgeways between the stake and post. a wire is next put around the post and stake, just at the top of this block, and twisted together; and another wire around the top of the post and stake, in the same manner as at the bottom. Then to put in the rails, I take an axe and hew them so as to fit between the post and stake, if the ends are too large. It will be understood that the ends of the rails rest upon one another, between the post and stake, in the same way as they would in a trunnel fence—the distances between the posts making them *lap* about six inches.

This saves a great many rails—three lengths making as much as four will in the zigzag or worm fence, and five good rails will make a fence 4½ feet high. This is nearly or quite as high as a seven rail fence put up in the usual way, and it will stand the wind better than a worm fence; cattle cannot throw it down, and it takes very little more ground than a board fence, and is a great deal better for a farm fence. The wire at the bottom prevents the stake from moving out of the way and letting the rails fall when the stake rots off, and yet the fence is just as good and firm as though the stake was in the ground, and the stake will last as long as the post. The timber used for the trunnels in the trunnel fence, will make the posts in this kind of fence, as they will be only 6½ to 7 feet long, according to the height of the fence desired to be built.

Kendaia, N. Y., July, 1863. ANONYMOUS.

A HOG TAMER.

A few days since we were shown an instrument invented by Reuben Hurd of Whiteside county, in this state, (who has secured the patent right for the same,) called the "American Hog Tamer." From a personal examination, we are satisfied that it is a thing of considerable practicable utility to every farmer, especially to those who keep their hogs during the summer months in clover pastures or orchards, as one application of Mr. Hurd's Tamer will entirely and forever afterwards cure the patient of any disposition to root or throw fences or gates, and at the same time produce a subdued state, and as a result increases the fattening propensities. Such at any rate is the experience of all who have used them among our acquaintance. Mr. Hurd should certainly have credit fo turning his inventive genius in this direction. Illinois.

Canning Peas and Different Fruits.

I notice in the Co. Gent. of 9th inst., a request for information in relation to canning peas, also *the different kinds of fruit.* We have had no experience with peas, but having been successful for three or four years with the different kinds of fruit, give "our method."

We have a decided preference for *glass* jars over any kind of metal cans, or even earthen; the condition of the fruit can be seen at all times and kind; besides, there is not the danger of poisonous substances forming from contact with the acid in fruit. A jar with a jog in the neck, like the Yeomans' Fruit Bottle, to prevent the cork from pressing inward is very desirable, if corks are used. There are some very good self-sealing jars, but they are much more expensive; and are considered somewhat more convenient by many. A cheap and sufficiently good sealing wax is made by melting an ounce of tallow with 1 pound of rosin.

Different persons will use different quantities of sugar, varying from ¼ to 1 pound of sugar to the pound of fruit. The sugar is not essential for *preserving* the fruit. Mix the desired amount with the fruit and heat slowly to just at the boiling point; then, having previously *heated the bottles gradually*, so as not to break, by immersing them in a pan or some dish of water which may stand on the stove while heating the fruit—fill, *and close immediately.* A tunnel with a large neck is more convenient for putting the fruit in quickly.

If corks are used it will preserve them and facilitate getting them out, to crowd in a cloth with them, and if the cork is rather small, more than one thickness can be used.

If, after the bottles have been dipped in wax once, blubbers appear on the surface, as if air escaped, they should be dipped again.

When persons get accustomed to preserving fruit in air-tight jars, they will never resort to the old way again. Less sugar need be used, so that in time it is more economical, and is of course more healthy. When once sealed properly, no further attention is required, such as scalding, &c. It will keep an indefinite length of time.

Earlville, Madison Co., N. Y., July, 1863.

CANNING FRUIT.

Eds. Co. Gent.—At p. 32, present vol., an inquiry is made as to preserving fruit in cans or jars. I have used tin cans, and glass and stone-ware jars for the purpose. Tin I have found to be not reliable for using more than once. The acid of the fruit will eat holes through from the inside. Glass jars I have found to be expensive, because they are liable to crack in heating. Stone jars, hard burned and well glazed *inside* as well as outside, I find to be just the thing. They are cheap, reliable and durable. I find them at the potteries in Albany. The sizes are of one, two and four quarts each, milk measure; prices $1.25, $2.00 and $3.00 per dozen. Their openings are from 1½ to 2½ inches in diameter, and intended for flat corks to fit them. The wax for sealing is made of rosin, bees-wax and tallow, in the proportions of sixteen parts of rosin, two of bees-wax and one of tallow.

The fruit of the berries is prepared by hulling or stemming, and the jar is filled. Then, to fill the crevices, use two to four ounces of sugar to the pound of fruit, dissolved in water enough to *nearly* cover the fruit in the jar—not quite—because the liquid will expand in heating, and it would so run over, and then, if not enough, it is better to add when near the boiling point, leaving just room for cork, and one half inch for wax above it. In preserving tomatoes or similar articles, nothing need be added to the fruit, their own juice being all sufficient.

Place the jar in a boiler or kettle, the neck out of water, the jar resting on a grate made by scrolling a piece of hoop-iron so that there may be a circulation of water beneath the jar. As soon as the liquid in the jar is raised to a boiling heat, (which is done to expel the air from the fruit and liquid) with a piece of cloth in hand seize the jar by the nozzle, remove it to the bench and quickly drive in the cork, using a piece of wood for a driver, its diameter nearly as large as that of the cork. If steam press through the pores of the cork and condense on it, apply a dry cloth to absorb it. Then quickly fill the cavity with melted wax. An iron spoon is a good ladle for that purpose. When the jar becomes cooled it should be kept in a cool place, that the fruit may not ferment—as a cool cellar. If the cellar is not cool enough set the jars on the bottom and cover them with a tub turned bottom upward. A tub for the purpose can be made by sawing in two a common flour barrel.

When fruit is put up in the above manner, particular attention should be given not to use jars whose openings flare inwards, or are of uniform width, but only those whose openings flare outwards, for when the liquid cools it contracts, causing a vacuum, when the pressure of the atmosphere on the outside will force the cork inward. If forced entirely in, the fruit would soon spoil, unless re-boiled and re-sealed. When putting up fruit in a jug or bottle, it is better to use a short piece of cork, and seal the same as with the jar. If glass is used, in boiling, it should be set in cold water, and the heat raised, being thus less liable to crack. Amos Fish.

Bethlehem, N. Y., July, 1863.

NON-SWARMING HIVES.

Mr. Hazen discusses the merits of swarming and non-swarming hives, as if the latter was a thing already accomplished, and to be had without trouble. Until we can get a hive that may be depended on as such, and will give us the surplus in suitable form for market, it seems like a waste of time to discuss which is the most profit. If I understand the principle, it is to convert his hive into a non-swarmer, by simply enlarging it—giving additional room for the bees to work. I have repeatedly detailed proofs that this is not so. Ten years ago I gave a particular list of experiments that should satisfy any one. If Mr. Hazen doubts what I have said, he can act accordingly; he should not mislead others by representing as an established fact what has only been tested by one or two seasons' experience with a very limited number of hives. Bees do very differently in different seasons, in the same place. Very different the same season in different places.

I cannot get a non-swarmer without the surplus honey in bad shape for market; even the dark room is not always certain. A non-swarmer that will produce surplus in good shape for market—small glass boxes—is what has been called for a long time.

If Mr. H., or any one else, will give me such a hive, or even a plan for it, that shall be reliable as a non-swarmer nine times in ten, whether patent or otherwise, I will give him $100. I have no idea that I shall get it.

St. Johnsville, N. Y. M. QUINBY.

How to Get Straight Combs in the Movable Comb-Hive.

Although it has been public a short time, it is not generally known that a new way of getting straight combs has been discovered. The hive is prepared in the usual way, with an angle on the under side of the top of the frame. Immediately on hiving the bees, elevate the back end of the hive some thirty degrees, when the frames run from front to rear, being careful to have the sides vertical. When the combs extend across the top, the hive may be set level.

The uncertainty of getting straight combs has discouraged a great many from using these hives. Such as have continued their use, have found it necessary, with all the guides we have had heretofore, to constantly superintend them, change the alternate frames end for end, with a knife bend the combs into line, &c.; but with the above simple position it is all right, and scarcely any trouble. M. Quinby.

St. Johnsville, N. Y.

COST OF HARVESTING HAY.

A correspondent of the *American Agriculturist* remarks:—I had occasion to hire a meadow of nine acres the present season, and the notes from my field-book show the cost of the hay and of the harvesting, and also throw some light upon the profits of farming:

The rent of the land was	$20.00
Cutting grass with horse-mower	6.50
Raking four hours with horse-rake	1.00
Curing and stacking seven tons	7.50
Total	$35.00

This shows the cost of the hay in stack to be five dollars a ton. As it is worth fifteen, there is a profit of seventy dollars on the nine acres. But it is poor farming where grass yields under a ton to the acre, as in this case. Had the land yielded two tons to the acre, it would have cost no more to mow it and to rake it. The only additional expense would have been in gathering, which would not have exceeded a dollar a ton. From accounts kept several years, I have never been able to gather hay with the scythe and hand rake for less than three dollars a ton. The expense in this is but a trifle over two dollars a ton. The farmer who owns his horse-mower and rake, I have no doubt can gather his hay for a dollar and a half a ton. What an infinite relief the horse-mowers and reapers are to human muscles. It is cheering to see them appearing in new fields every year.

The above figuring shows that there were only 7 tons of hay from the nine acres. Had there been two tons of hay per acre, the cost would of course been much less per ton. The above estimate we think much too high in some particulars. It has been customary in Western New-York of late years, or since mowing machines have been so well perfected, to furnish team, man and machine, at 50 cents per acre, which would be $4 or $5 per day. The present year the writer had his meadows cut at 31 cents per acre, the owner furnishing only the team which otherwise would have been idle. The farmer, who buys an expensive machine to cut a few acres only, will find it to cost more than this, if he confines the use of his machine to his own small field. A neighboring farmer who usually cuts nearly 200 acres of hay yearly, finds that a good mowing machine will cut at least a 1,000 acres before wearing out, and that the expense of the machine. including repairs, will not be more than 12 cents per acre. Estimating the value of the team at $2 per day, and at 10 acres each day, or 20 cents per acre, the whole cost of cutting will be only 32 cents per acre. A yield of two tons could therefore be cut for 15 cents a ton. On smaller farms the interest on the cost of the machine would make the expense greater. The above copied estimate makes the cost of raking $2.50 a day of 10 hours; and the stacking alone is placed at over $1 a ton, which is more than twice as much as it has cost the writer for several years past, although he could not be with his workmen for constant superintendence. He has also found that the whole cost of cutting, raking, drawing the hay half a mile, and pitching it into the barn does not usually exceed 80 cents per ton.

There is no doubt that by the use of the best mowers, horse rakes, and horse forks, and with all the facilities which good farm roads, convenient buildings, and constant personal supervision by the owner would furnish, hay from heavy meadows may be cut and secured for 50 cents per ton, according to the estimate published on page 74, vol. xviii of the Co. Gent.—provided the weather should be favorable and reasonable caution exercised to avoid storms, which the rapid work of this farm machinery would usually enable farmers to do.

STEAM PLOWING.

Eds. Co. Gent.—I notice in the Co. Gent. of July 25th, an article from H. P. B., headed *Steam Cultivation.* Amongst other things I see he makes some remarks about steam power for plowing; but I believe he comes to the conclusion, that so far as has been tried, it has been thought impracticable. Now, I think some (if not all) who have been experimenting, have aimed to accomplish too much.

I think that I could—or if I could not—that a *Yankee* of ordinary inventive genius, could make a steam engine which would drive my plow—or a plow of my make—which will cut a furrow 10 or 12 inches wide, and 8 or 10 inches deep, and turn it well, with a draft of about 300 pounds by the dynamometer, and weighing 95 pounds. I think an engine could be made, which could be managed by one man, and so constructed as to turn a right angle, or a curve, by raising the plow, and could be driven with about double the velocity of an ordinary team of horses, or sufficient to plow 4 acres a day of prairie land where there is no stone or stumps or anything to interfere with its working.

Perhaps in constructing the propelling apparatus, the *Yankee* might take a hint from the old Dutch wheel plow and make the furrow wheel the largest. As to the economy of the thing, I have my doubts; I leave that for those to determine who are better able than I am to judge. Darius Clizbe.

A Better Mode of Training Lima Beans.

Messrs. Editors—In the Country Gentleman for July 2d, you describe the method adopted by Mr. W. A. Underhill, of Croton Point, for training Lima beans, which is very good. But for many years I have practiced a little different plan which I think you will consider better. I set two rows of posts four feet apart, and eight or ten feet apart in the rows; the posts six feet high above ground. These may be made of good chestnut rails, hewed to three inches square at the top. Twelve inches above the ground along the line of these posts, I nail a strip 3 inches wide, and another at the top of the posts, of less width. Across, on the top of the posts, is nailed another strip to keep the posts firm; another strip forms a ridge pole, supported by small rafters, set at an angle of forty-five degrees, from the top of the posts. To the lower strips is tied cord, sixteen inches apart; each cord is taken around the upper slat, and over the ridge, and secured on the opposite side in the same manner. It is designed to have but one plant to a cord. In this method of planting, more plants can stand on the same ground, and still so divided as to be open to the air and light, and the result is, a product nearly or quite double that which can be grown upon poles. If the frame is well set up it will last many years. It may be so made that it can be removed to different locations. When the posts are set on each side of a garden walk, a very neat, shady avenue is formed, with economy of room. This plan is not confined to Lima beans, but it is equally adapted to all the running varieties. H. P. B.

☞ The next Hendricks County Fair, will be held at Danville, Hendricks County, Indiana, on the 15th, 16th, and 17th of next ninth month. Awards will be made as heretofore, but the premium money will remain in the hands of the Society, to be donated with the entire proceeds of the Society, to the families of soldiers.

A. FURNAS, President.

RULES FOR ORNAMENTAL PLANTING.

Preparation of the Ground.—1. The first object is a proper surface. Round off angles and sharp points on the more finished portions; an abrupt surface is not objectionable for the wilder parts.

2. Do not attempt heavy excavations; they are too costly. A little paring down, and a little filling up, are all that is necessary. The man of taste will adapt him self to his ground.

3. A main object is depth and fertility. Trench and subsoil a foot and a half deep if practicable, which will prevent the effects of drouth, and induce vigorous growth. A fair amount of manure should be evenly distributed, and well worked in at the same time.

4. Uniform fertility and absence from sterile patches, should be secured by a thorough use of the harrow and rake, intermixing all parts of the soil alike.

Mode of Planting.—5. The most expensive mode of planting is that which requires the digging of the whole or most of the surface, as in geometric flower-gardens; the cheapest is the planting of large trees, and the grazing of the lawn by small animals, as sheep.

6. The best mode for ordinary practice in small places, is the natural style—that is, with curved walks, smoothly shaven lawn, and circular, elliptic, or arabesque flower-beds, cut in this smooth turf. For larger places, or with many acres, trees alone may be planted on the lawn which may be kept mown, or grazed with sheep.

Distribution of Trees and Shrubs.—7. Avoid the old, stiff, geometric mode of planting in straight lines, unless in particular cases along roads or avenues, or strictly for purposes of utility.

8. Imitate the graceful groupings seen in the most beautiful natural plantations, or in landscape pictures.

9. In the absence of any other guide, the novice may copy in his groupings, the irregular and scattered drops of rain on a flagstone, or the position of the stars in the sky.

10. Plant most thickly, and with the larger, or with evergreen trees, where it is desirable to conceal unsightly objects, or to shelter from prevailing winds; and leave the view more open, where distant or pleasing objects may be seen, as hills, lakes or rivers, villages, &c.

11. Plant so as to conceal boundary fences, and leave the view partly open towards some of the further corners of the grounds, to prevent a cramped or confined appearance. The extent will be apparently increased by placing trees of light or fine foliage toward these distant parts.

12. In order to avoid abruptness, gradations from one kind of trees to another—as, for instance, from evergreens to deciduous,—should be somewhat gradual, or by intermingling the two together.

Lawns.—13. To prevent lawns from becoming dry, brown, and burnt during the heat of summer, the soil should be made deep and fertile.

14. To prevent uneven patches of grass, great uniformity in applying the manure should be observed.

15. To secure a dense, fine carpet of verdure, sow evenly at least two bushels of seed per acre. If done early in spring, and rolled, or finely raked, or harrowed in, (not covering more than half an inch deep,) it will make a fine and perfect lawn the same summer.

16. Kentucky blue, or June grass, red top and white clover, form a good mixture, as well as the lawn mixtures sold at the city seed stores. White clover is too coarse for the finest lawns, but answers admirably for such as are grazed by animals.

17. The finest and most perfect lawns are mowed twice a week during the growing season, and are never more than an inch above the surface. Others less finished are mowed once a week early in summer, and once a fortnight after harvest. If cut less frequently, the grass becomes thin and brown near the surface of the soil.

Walks.—18. No part of pleasure grounds are more expressive of the character of the keeping than the walks. The finest gardens, with rough, irregular, and unfinished walks, convey an expression of bad management; but if smooth, graceful, and well kept, even though a wild, natural shrubbery, they impart a graceful air to the whole.

19. Avoid abruptness in curves, but let a long curve pass gradually into a short one.

20. There should be an apparent and obvious reason for every curve—either for the purpose of sweeping around from one object to another, or to avoid such an object as a flower-bed or mass of shrubbery, placed in the direct line. Hence it is advisable to place such an object on the inner side of any curve.

21. The only part of a walk visible to the spectator, should, in general, be that portion immediately before him; the other parts, therefore, should be concealed by plantings, or by rising ground.

22. A walk should not pass very near the boundary, to avoid a feeling of narrowness or confinement.

PRESERVING FRUIT.

Some days since I read in your journal some suggestions in regard to preserving fruit. Allow me to tell you how we manage this in my family. Take ordinary glass jars—those with the top edge rounded off and forming a bead, however, are the best—fill them full of boiling fruit, full to the overflowing. Then having previously prepared pieces of tin foil, place one immediately over the mouth of the jar, press it around as smoothly as possible, and pass round the same a cord or string, say three times, making a single tie at each turn only, except the last. Then with the thumb or finger nail, rub the foil close to the glass on the upper and outer edge of the mouth of the jar. If the foil be free from holes and securely put on, it will soon assume—even in a few minutes—a concave form, as much so nearly as that of a large silver spoon. If not, some defect exists. The jars, of course, should be well warmed or heated before introducing the hot fruit, to prevent breaking—besides the hotter everything is kept the better. It is more convenient in handling and filling the jars, to place them in a pitcher, thereby in effect securing a handle for the time being.

We have practiced this plan for ten years, and out of 50 to 100 jars put up each year, I think we have never lost one—have kept them for two seasons in this way. Have never tried vegetables.

From the difficulty of keeping tin cans clean and tasteless, or making corks tight, or the uncertainty of melting compositions for the purpose of sealing hermetically, necessity being the mother of invention, the writer hit upon the manner herein described, and we have found it to work admirably.

The chief difficulty about it is to procure suitable foil. That found for sale in a retail way is generally worthless, on account of its imperfections. It must be entirely without holes. I obtain it in rolls from the manufacturers in New-York; but even then we always examine it thoroughly. The best way to do this is, after cutting the foil in suitable pieces, hold each piece close to the eye, and turning towards the light, the smallest perforation will appear, particularly if it be rather dark behind—the pieces should of course be moved about when searching for holes; or use a light for the purpose, keeping it as dark as possible behind you. Evening, in fact, is the best time to make the examination. The foil should be pretty stout—but I have found quite thin foil to stand well. If the mouth of the jar should be quite large and the foil thin, it is best to put on two thicknesses. To do this, lay one piece down and rub a little of the fruit juice over it, and then lay another piece on it, rubbing them together. This is much better than putting two single pieces over the mouth of the jar. I. M. M. *Greenfield Hill, Ct.*

Pruning the Rochelle Blackberry.

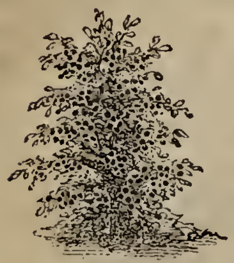


Fig. 1.

We continue to hear frequent complaints of the rampant straggling growth of this bush, extending across alleys, tearing dresses, at the same time proving unproductive. This is all owing to a neglect of summer pruning. As soon as the new shoots have reached three and a half feet in height, the ends should be pinched off with the thumb and finger, which will cause the protrusion of laterals. These in turn are to be pinched off when they have grown eighteen inches. It will be necessary to pass along the rows every two weeks in doing this work, as new shoots will be constantly thrown out during the entire summer. The plants being thus kept within bounds will present the neat, compact, and productive bushes shown in fig. 1, instead of the unproductive stragglers, if left untouched, represented by fig. 2.

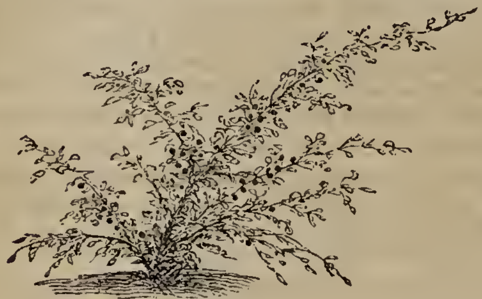


Fig. 2.

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TRIMMING HEDGES.

There has been some discussion, in former volumes of this paper, on the expense and best mode of trimming Osage Orange Hedges, and some have regarded it a formidable item of expense. We have made some experiments and observations on this subject, and give our readers the following results:

Trimming with a stiff scythe is a rapid mode, but as the operator has to strike upwards in order to do the work smoothly, and to prevent breaking and splitting the branches, it is hard and severe work on the wrist. In most of the experiments alluded to, a common corn-cutter has been employed, which has a wooden handle about a foot and a half long, in which a steel blade is set obliquely and about twelve inches long, fig. 1. With this simple instrument one man has trimmed one-half to three-fourths of a mile of four-year hedge on both sides in a day—cutting it to a peak in the middle, like the roof of a house. A great improvement would be made in this tool by making the handle three and a half feet long, and setting the blade more nearly in a line with it, as shown in fig. 2. The blade of an old scythe, cut short, might be worked over by a blacksmith, so as to answer the purpose well. This length of handle enables the operator to strike more efficient blows, and keep his hands clear of the thorns. The workman we have employed is satisfied he could easily trim a mile or more in a day with such a tool. When the hedge becomes older and higher, the labor probably would be somewhat increased; but two annual trimmings would not probably cost more than one cent a rod.

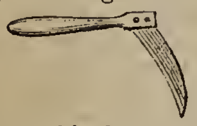


Fig. 1.

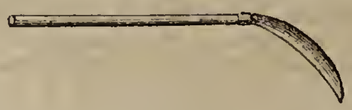
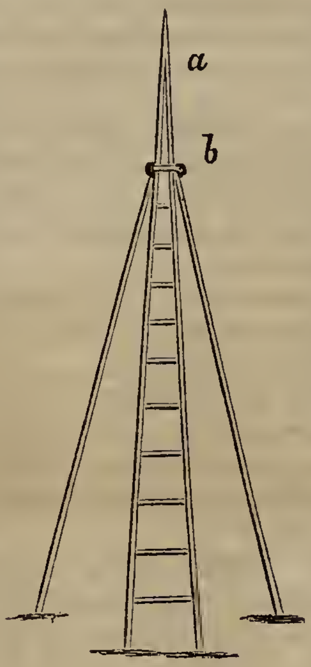


Fig. 2.

FRUIT LADDER AND FRUIT PICKER.

What is the best form for a fruit ladder? and the lightest weight possible, with sufficient strength for one twenty feet long? What is the best kind of fruit picker, and where can it be had? C. *Cecil Co., Md.*

The fruit ladder may be nearly in the form of a common ladder, such as is used by carpenters, house painters, &c. The size of the parts must depend on the strength of the timber used, and may be judged of by examining such ladders as above mentioned. They may be a simple ladder resting on the limbs of the tree; or a self-supporting one with legs. In the former instance, it will be most convenient to run the two sides to a point at the upper end, so that it may be thrust up conveniently among the branches, and rest more securely. A self-sustaining ladder with folding legs, is shown in the annexed cut. The best fruit picker for ordinary use, was figured and described in the Country Gentleman last autumn, page 270, and one for taking apples from the ends of long limbs, in a previous number, page 218.



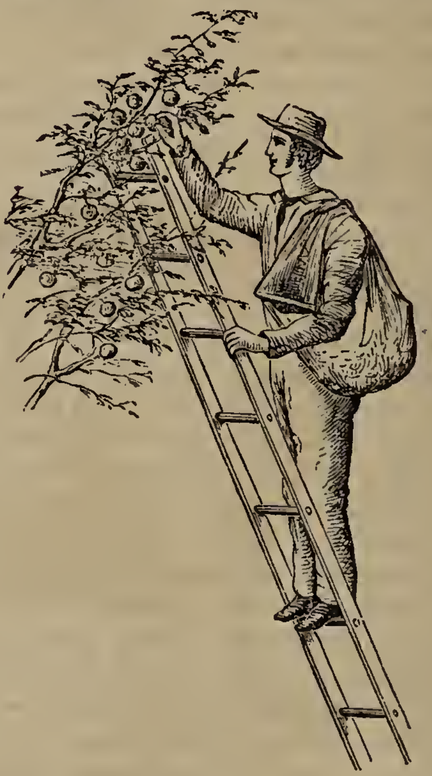


Fig. 2.

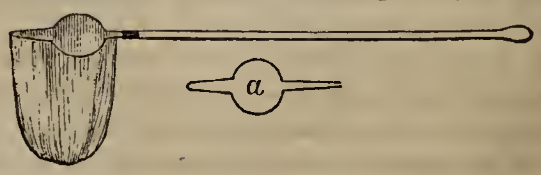


Fig. 3.

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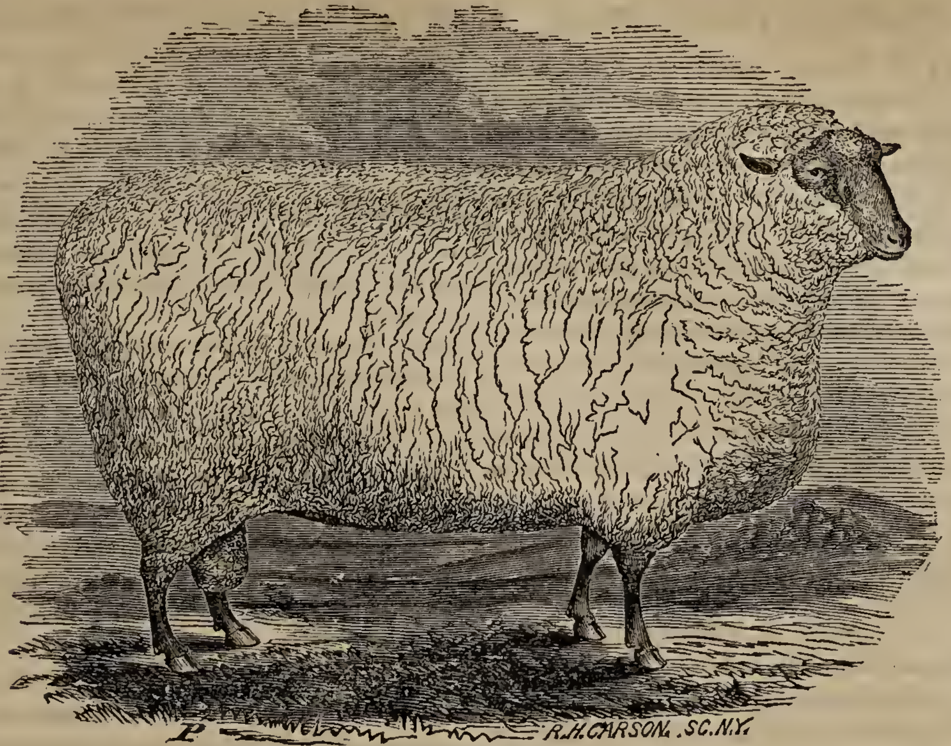
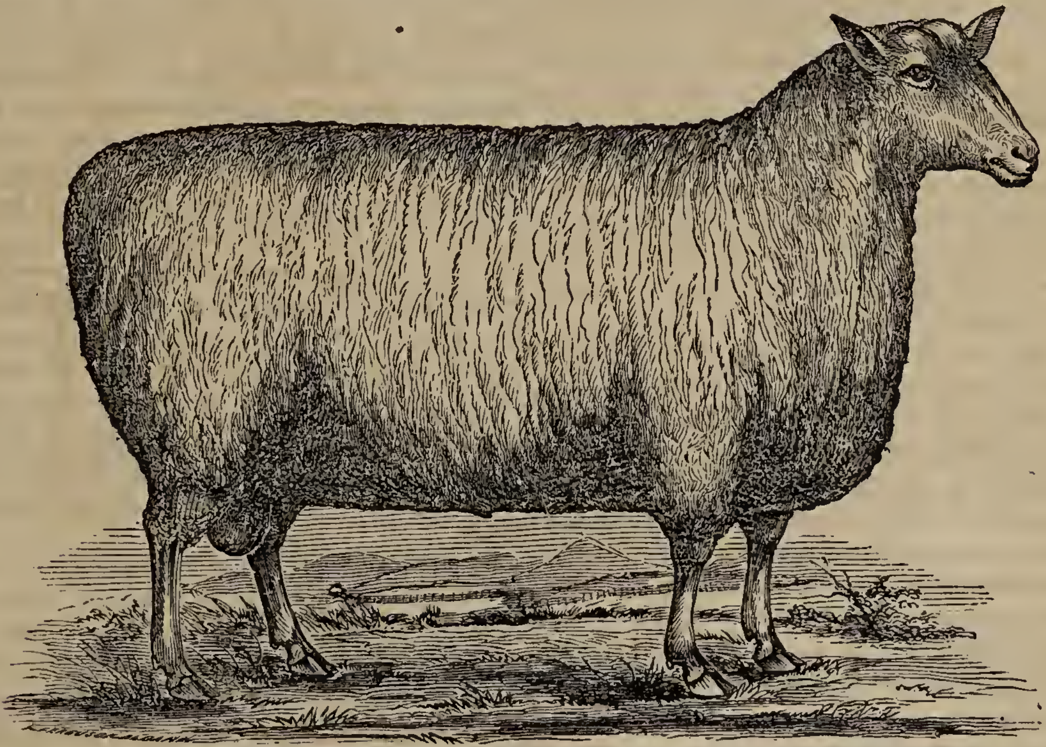
Another Great Exhibition.—The Emperor of the French has ordained a universal Exhibition of Agricultural and Industrial products, to take place in Paris, from May-day, 1867, to the end of the following September.



South-Down Ram "Archbishop" Imported and Owned by Samuel Thorne.

The Imported Prize Ram Archbishop, offered at Mr. Thorne's sale, next week, [see advertisement,] was selected and purchased from the flock of the late Jonas Webb, Esq., in 1860, at a cost of 250 guineas, ($1,250.) He won the first prize in the Yearling Class that season, at the Royal Show, and, as was proved by the Catalogue of Mr. Webb's last South-Down sale, was used more largely by him than any other sheep.



A Three-Year Old Leicester Ram—bred and owned by Jurian Winne, Bethlehem Center, Albany County, N. Y.

Awarded the First Prize as a Yearling at the New-York State Fair, at Watertown, in 1861, in competition with a large turn-out from this State and the Canadas. From a photograph and drawing taken a short time after shearing—when the wool was still considerably less than two inches in length. Mr. Winne furnishes the following measurements, previously made:—Length from end of nose to root of tail, 5 feet 8 inches; breadth across the shoulder, 2 feet 3 inches; breadth across the hips, 2 feet 1 inch; girth (as above stated, with wool on,) 5 feet 8 inches. Live weight at 18 months old, 287 lbs. For information as to his excellent flock of Leicesters, address Mr. WINNE as above.

☞ The St. Lawrence County Fair, (12th) will be held at Canton, September 22–24. Address by HENRY G. FOOTE, Esq., President of the Society.

☞ The Manlius and Pompey Agricultural and Mechanical Association hold their Fifth Annual Fair, at Manlius village, on Thursday and Friday, Oct. 1st and 2d, 1863.

PREPARATION OF FLAX FIBER.

The manufacture of flax was among the first known to civilized man. It was one of the chief sources of wealth and luxury of the ancient Egyptians. It is said that Pharaoh arrayed Joseph in "vestures of fine linen;" and Samson was delivered into the hands of the Philistines bound with flaxen cords. We also read among the plagues that were sent upon Pharaoh, that the flax was smitten with hail.* Flax continued to be cultivated, and formed a very considerable article of domestic manufacture down through the first quarter of the present century; and even to the days of our mothers, the "spinning wheel" constituted one of the permanent articles of their outfit. The invention of the cotton gin in America so reduced the cost of cotton, and increased its production, as to render it one of the controling articles of the commercial world, and to entirely supersede the production of flax as a textile material. But the rebels in their attempt to overthrow the Government, have not only spread devastation over their own fair land, but have even dethroned their boasted king—cotton, and thus have cut off three-fourths of the supply to the manufacturers of the world.

In order to furnish a substitute for the deficiency in cotton, flax has been sown the present season to a wide extent in nearly all of the loyal States in the Union, and large sums will be expended in efforts to reduce the fiber by some economic process, to a condition adapted to machine manufacture. Already several establishments have been erected in New-York and other States for this purpose, and the number is increasing. It would seem, as flax has been grown, and the fiber prepared by the most simple process for manufacturing, from time immemorial, that, with the aid of science at the present day, the process might be so improved and extended as to meet any demands for manufacturing purposes; and there can hardly be a doubt that this will be accomplished, and by means in the end so simple that the world will wonder that they were not long since discovered.

In Great Britain, and in other portions of Europe flax is largely manufactured, and within a few years numerous patents have been granted for different processes for the preparation of the fiber, none of which, as yet, seem to give entire satisfaction. In the United States also, a number of individuals have devoted much time and expense in their efforts to prepare hemp and flax fiber by some cheap and expeditious process for manufacturing. All these processes, both in Europe and the United States, have been conducted under two general heads,—mechanical, in which the operations are carried on in a dry state; and chemical, in which moisture to a greater or less extent is employed. In the first, the separation of the fiber is obtained through the agency of machinery alone, leaving in the fiber much of the soluble substances which it seems essential should be removed; in the latter, a great variety of processes and agents are employed for the separation of the mucilaginous and gummy material contained in the flax. In the most simple form these have been employed from the earliest period of its production. More recently, hot water, steam, acid, and alkaline solutions, in various forms, have been employed, which have accomplished the object, though attended with too much cost. The great end now to be attained, is to cheapen and simplify the process. Flax, for many years, has been grown to a large extent in Ohio for the seed alone, little or no use being made of the straw. A few years since a company was organized at Dayton, in that State, and very expensive machinery erected, with a view to utilize the fiber. Upwards of 200 tons of the straw was at one time collected upon the premises; but the company failed to realize its expectations, and the material produced was chiefly consumed for paper making and for upholsterers' use.

Mr. James Anderson, an extensive manufacturer of Louisville, Ky., has devoted much of his time during the last twenty years, and has expended large sums of money in his efforts to prepare hemp and flax fibre for manufacturing by mechanical means alone. Recently he has put into operation a machine by which he thinks he has overcome all previous difficulties, and rendered the process simple and effective. The work is accomplished by the action of revolving and vibrating rollers, which act transversely of the fibres, and, as he thinks, accomplishes the same result that is secured through the medium of the heckle, but with greater thoroughness and rapidity. He claims that it effectually removes the glutinous and gummy matter which binds the fibres together. The process is applicable alike to water-rotted and dew-rotted flax, as well as to that which is unrotted, either in a tangled or straight condition. But he thinks the process applies better to the unrotted than the rotted article, from the fact that in the former the glutinous matter is of a more friable character, and is more easily removed by friction. Mr. Anderson claims that unrotted flax does not possess that continuity that characterizes the rotted article, yet it acquires that property on being immersed for a short time in tepid water, either in the form of yarn or after it has been fabricated. Should further experience confirm this, it would seem that the great object has at length been attained. For the benefit of Mr. Anderson, as well as for the world at large, it is hoped that this process may prove successful, for no man is more worthy of success than Mr. A. From all previous experience it appears that however well the fiber may be separated from the unrotted straw, unless it is subsequently passed through some steeping process, the goods manufactured from it are liable to be injured from dampness, causing mildew and decay in its action upon the azotized substances remaining in the fibers.

From a description of the operation of the machinery of the Lockport Flax Cotton Company, which is designed to break the unrotted straw, like that of Mr. Anderson's, (inferring from the mere descriptions alone, it would seem that the latter accomplishes the work the most perfectly,) the fiber is submitted to several washing, bleaching and solvent processes, calculated to remove all the azotized substances remaining in it. If then, upon further trial, it should prove that the straw can be broken in its unrotted state as completely, and with as little waste of fibre as it can after it has passed through the rotting or steeping process, and if the process of removing the soluble matters from the fibers can be accomplished as perfectly when reduced to this condition as it can in the straw, then it would seem that nothing remains but to improve these several processes so as to reduce the cost to its lowest possible standard, to render the flax for manufacturing purposes all that it is designed to be.

It is the laborious and expensive process of rotting or steeping the flax in the straw that has prevented it from competing successfully with cotton as a textile material. In breaking it first and removing the woody portion, the labor of handling is reduced more than *four-fifths*, and much of the most disagreeable portion of the work is avoided.

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*Exodus IX—31. This, and similar instances recorded in that connection affords a most striking parallel to the present condition of that part of our country now under rebel rule.

Messrs. Sanford & Mallory of New-York city, are manufacturing a flax dressing machine that has been extensively used, and manufacturers both in this country and in Ireland speak of it in terms of high commendation, but so far as I have been informed its operation is confined to the rotted straw. The saving of fiber in its action over that of other machines is said to be large.

For years past thousands of tons of flax have been grown in the United States for the seed, no regard being paid to the value of the straw, this straw being of the coarsest character because just so much seed was sown to the acre as would produce in return the largest quantity of seed. This course of cultivation, continued for a series of years, has resulted in the growth of a coarse, stocky, branching stem, producing a fiber, if dressed, adapted only to the manufacture of the coarsest fabrics, yet it cannot be doubted that even for these less important manufactures some process for the successful, economical preparation of this fiebr is fully within the range of the capacity of the inventive powers of our people. For the finer and more valuable fabrics the farmer must have a greater regard for the quality of the straw, and a larger quantity of seed must be sown to the acre.

From the very general attention which this subject of flax is now receiving throughout the country as a partial substitute for cotton, it is hardly probable that the year will pass round without bringing to light some process for the treatment of the fiber that will bring it within successful competition with cotton. In the whole field of invention there seems to be nothing that holds out greater promise of reward. H.

* * *

MANAGEMENT OF SWAMP MUCK.

From the questions we often hear people ask, and from observation, it is easily seen that the right management of muck is but imperfectly understood. Most people that condemn it, I find on inquiry the only trial they have made has been to plow it in as fresh dug and drawn from the swamp. I have seen people the past season dig and draw it two miles, when dripping with water. Does any one ask, does this pay? I answer, no sir! A cord of peat or muck is allowed to contain from 80 to 90 per cent of water, and shrinks from two-thirds to three-fourths its bulk when dry. It will be easily seen there is no economy in moving it any great distance until it has parted with a large share of its moisture. My own plan has been to dig in dry weather in the fall. I dig a ditch, say six feet wide, throwing the muck in a high pile on one side. I let it remain over the first winter, until the second. The frost of the first winter having acted on it and pulverized the outside, it will not now freeze very deep, and the outer crust can be easily broken with a pick. When the ground is frozen sufficient to bear a team, I draw off about 100 loads on to high and dry ground, and as I have two miles to drraw it, I let it remain until fall. The 100 loads will not now make over 50 or 60 of equal bulk of the former. It is now ready for composting, or it may be spread on the ground where wanted, and plowed in the coming spring. It should never be plowed in until it has been weathered at least two years, and become pulverized and lost its adhesiveness; otherwise you may do your land great damage.

I have met with the most success in composting with horse manure, horn shavings, fish, and such manures as contain much ammonia, as they heat the pile and reduce the mass to plant food. Composting should never be undertaken until the muck has been weathered and pulverized by the frost. In composting I use about one-quarter animal manure.

In regard to the value of this compost as a fertilizer or amendment, I consider it far superior to clear animal manure; its lasting qualities are far greater, and of a greater value. I have abundant evidence to show that the muck or peat I have used is entirely a vegetable substance, and will burn well when dry. L. BASSETT.

North Haven, Conn., August 5, 1863.

* * *

HORSE HAY SPREADER.

EDS. CO. GENT.—Last spring, in conversation with a farmer from Massachusetts, I heard of a machine for turning and spreading hay, manufactured in that State, which from his description I judged to be a valuable farm implement. After much search I found where the machine was manufactured, and procured one. During the very unfavorable weather for hay making which we have had this season, I have found it very useful. All farmers know that where grass, averaging one or two tons per acre, is cut with a mowing machine it will not dry on the under side unless it is turned over, which is quite a bungling and tedious job. This machine, with a boy and one horse, will turn a strip 9 feet wide, and do it much better than it can possibly be done by hand. By running it over a field two or three times the hay can be cured in one-third the time otherwise required.

The manufacturers inform me that on account of the scarcity of mechanics they cannot manufacture more than enough machines to supply the local demand, and hence have not found it necessary to advertise.

The machine is very simple, not liable to get out of order, and does its work perfectly. I think if some of the extensive manufacturers of farm machinery in this State would make arrangements to build and introduce this, or a similar machine, they would be adding a very valuable implement to the list of farm machinery.

Ulster Co., N. Y., July, 1863. P. H. BRINK.

* * *

Stacking and Drying Beans.

A correspondent of the Rural New-Yorker gives the following:—I use two stakes instead of one, seven or eight feet long, and from one and a half to two inches through. Set them in the ground about two inches apart; put a withe on the stakes a foot or eighteen inches from the ground; take a small handful of beans and lay the roots between the stakes, so far through that the tops will not reach the ground; then a bunch on the other side in the same way. After this, the *roots* only should come between the stakes, and the roots of each bunch should be laid *at right angles with those of the bunch preceding.* When within a foot of the top of the stakes, put on another withe, drawing the stakes together to hug the roots closely, then fill up with beans, as before, to the top; then take two bunches of beans, tie the roots together and lay astride the top, and it is finished.

Beans stacked in this way will never mould, as they often will when stacked around one stake. They should be stacked as soon as pulled, and always handled by the roots. When the stacks are thoroughly dry, they may be taken to the ground whole, pulling the stakes from the ground.

Royal Ag. Society's Annual Exhibition.

The Royal Agricultural Society of England met this year at Worcester. Judging, perhaps in an American way, from the amount of money received, the exhibition was a very successful one. The aggregate receipts are stated at about £6,500 (say $32,000) and were only exceeded in the whole history of the Society, by the Leeds Show in 1861, and that at Battersea Park last year, both of which were regarded as quite "out of the common run." And for its efficiency and excellence as an agricultural show the Worcester Meeting has been highly spoken of.

There was the usual Steam Plow trial at the outset, with no less than seven competitors. There were two classes of prizes offered, with reference to the size of the cultivators competing, as follows:

STEAM CULTIVATORS—CLASS 1.—Gold Medal and £30, John Fowler, fourteen-horse set of steam-plowing machines, complete—1st prize: £20, William Savory & Son, two ten-horse self-propelling winding engines—2d prize; Silver Medal, Wm. Steevens, four-furrow steam plow and cultivator combined—3d prize. Commended—Coleman & Sons, set of steam cultivating apparatus.

STEAM CULTIVATORS, for small occupations—Class 2.—£25. John Fowler, ten-horse set of steam plowing machinery, complete—1st prize; £15, Wm. Smith, do., 2d prize; £10, J. &. F. Howard, do., 3d prize.

Coming to the Live Stock, we find the show of Short-Horns on the whole meeting with considerable criticism—particularly as to the aged bull and cow classes. Of the bulls under 2 years old and above 12 months there was a capital turn out—in all, twenty-eight entries, and the winner "the Hero," belonging to R. Eastwood of Thorney Holme, is highly praised in nearly all points except color, as he is white. There were thirty-five entries in the young bull class, which were also a superior lot. The class of yearling heifers is mentioned as a good one. But the gems of the field were the heifer calves, as all accounts agree. The Scottish Farmer, for example, says they "were remarkably good, among the best that have ever been witnessed at any of the Royal Agricultural Society of England shows." And here we have to record

AN ITEM FOR AMERICAN CONGRATULATION!

The first prize went to Lady Oxford 5th, bred by D. M'Intosh, Havering Park, but whose parents on both sides were bred by SAM. THORNE, Esq., of Dutchess Co., N. Y. The Illustrated London News, whose reporter is good authority, remarks:

> "Mr. M'Intosh's pure Bates Lady Oxford 5th, the first calf by that gentleman's celebrated American bull, Third Duke of Thorndale, fairly distanced the calf class. She had been a winner at the Essex Show, a short time before, with a half-sister as second to her. Her form and handling created quite a sensation, and if there had been a gold medal this year, it is quite on the cards that she would have beaten all the Short-Horn females."

Both Third Duke of Thorndale and Lady Oxford 4th, the sire and dam of this heifer, were a part of Mr. Thorne's shipment in 1861, and were sold by him at that time to Mr. M'Intosh. We add the opinion, expressed by the North British Agriculturist, of Lady Oxford 5th:—"The first prize was a wonderfully fine calf, eleven months old, a perfect marvel of depth, quality, and symmetry, with a sweet head, and charming skin and hair, bred by Mr. M'Intosh of Havering Park."

Worcester is almost in the centre of the Hereford district, and the show of this breed was consequently a more important feature than usual. As Hereford breeders in America, however, have never been very liberal feeders, having always accused the Short-Horns of being "ruined by their loads of fat," and as we never met one of them who would fully credit our statement that other improved breeds in England are equally at fault (so far as their capacities will admit) on this score,—it is somewhat amusing to find such remarks as the following, from the Scottish Farmer: "Bad as some of the Short-Horns were for fat, *the Herefords were a great deal worse.* Indeed, many of those shown in the breeding classes might have been transferred to the shambles without the necessity of giving them another pound of oil-cake." Notwithstanding this, however, they appeared to great advantage, and the Mark Lane Express says they presented "indisputably the most evenly excellent entry of any breed on the ground." The total number of Short-Horns shown was about 180; that of Herefords, here on their own ground, about 95. The North British Agriculturist says: "The Herefordshire agriculturists were justly proud of the appearance made by their favorite breed of cattle;" and, of the bull calves, that they "were very equal, and many of them showed early maturity to a degree little short of the more highly prized Short-Horn. One of the bulls is pure white, with the exception of a few brown hairs on the tips of the ears. Few looking at this animal would have supposed that he was not a Short-Horn."

The Devons.—"There was a capital show of this, when alive, very pretty, and when dead, exceedingly palatable, animal. Indeed, it is not often that such first class specimens of this breed are brought together. Among the exhibitors was Major-General Hood for the Queen, who carried off two first prizes, one in the yearling bull and another in the heifer classes. The cow class was particularly good."

There was an excellent display of Leicester SHEEP, the well-known flocks of Sanday, Inge, Turner, and Dester being largely represented. Of shearling rams there was a very full show—forty-six in all—Colonel Inge getting the first prize, and Mr. Sanday the second and third. Cotswolds were a splendid show both in point of numbers and quality. In the class for shearling rams, Mr. Garne of Aldsworth, swept off all three prizes. Lincolns were rather a limited show, but those penned were good. The Oxfordshire Downs as a class, were very good. "They are a breed which promises to come more into repute, and to supersede in some degree the smaller Southdowns, mutton and wool being the great desiderata at the present time." The Southdowns were an unusually good show, Mr. Rigden, the Duke of Richmond, Lord Walsingham, and the Messrs. Heasman being the principal exhibitors. Lord Walsingham almost swept the yard of the entire prizes, getting all three for shearling rams, all three for rams of any other age, and first for shearling ewes. The second prize in the latter class went to the Messrs. Heasman, and the third to Mr. Farquharson of Langton House. The Shropshire men came out remarkably well, sending large numbers of this now thoroughly recognized and much esteemed sheep to the show; and many of them were specimens calculated to increase the reputation they have already earned.

Some of the reporters say that on the whole, the Royal Show Yard never saw so fine a turn-out of sheep.

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☞ H. G. WHITE, Esq., South Framingham, Mass., sends us a plate representing the Short-Horn cow "Aba," drawn on stone by J. R. Page. She is six years old, and is destined for the butcher after feeding the coming winter. Her present weight, Mr. W. informs us, is 1,850 lbs.

List of State, Provincial, County and Local Agricultural Exhibitions for 1863.

STATE, PROVINCIAL, &c.

American Institute--New-York. Opens at Academy of Music, Sept. 27.
California--Sacramento, Sept. 26, Oct. 1.
Canada, Lower--Montreal, Sept. 15, 18.
Canada, Upper--Kingston, Sept. 21, 25.
Colorado--Denver City, Sept 17, 18.
Illinois--Implement Trial, Decatur, Sept. 21, 26.
Illinois State Fair--Decatur, Sept. 29, Oct. 2.
Illinois Hort. Society--Rockford, Sept. 9, 11.
Indiana--Indianapolis, Sept. 28, Oct. 3.
Iowa--Dubuque, Sept. 15. 18.
Kansas--Leavenworth, Oct. 6, 9.
Kentucky--Louisville, Sept. 15, 19.
Michigan--Kalamazoo, Sept. 23, 26.
Minnesota--St. Paul.
New-Jersey--Paterson, Sept. 8, 11.
New-York--Utica, Sept. 15, 18.
Ohio--Cleveland, Sept. 15, 18.
Pennsylvania--Norristown, Sept.29, Oct.2.
Pennsylvania Hort.--Philadelphia, Sept. 15, 18.
Vermont--Rutland, Sept. 8, 11.
Wisconsin--No Exhibition.
Wheat Show at Rochester, Sept. 8, 10.

COUNTY AND TOWN—MAINE.

Cumberland--Portland, Oct. 14.
Franklin--Farmington, Sept. 30, Oct. 1.

NEW-HAMPSHIRE.

Cheshire--Keene, Sept. 22, 23.
Hillsborough--Oct. 1, 2.
North Weare--Weare, Sept. 24, 25.

VERMONT.

Champlain Valley--Vergennes, Sep. 16,17.
Chittenden--Burlington, Sept. 22, 23.

MASSACHUSETTS.

Barnstable--Barnstable. Oct. 6, 7.
Bristol--Taunton, Oct. 6.
Berkshire--Pittsfield, Oct. 6.
Essex--Andover, Sept. 29.
Franklin--Greenfield, Sept. 24.
Housatonic--Great Barrington, Sept. 30, Oct. 1.
Hampshire, Franklin and Hampden--Northampton, Oct. 1.
Hampshire--Amherst, Oct. 8.
Hampden--Springfield, Oct. 6, 8.
Hampden East--Palmer, Oct. 13.
Highland--Middlefield, Sept. 10.
Hoosic Valley--North Adams, Sept. 22.
Middlesex--Concord, Sept. 17.
Middlesex South--Framingham, Sept. 22.
Middlesex North--Lowell, Sept. 24.
Martha's Vineyard--West Tisbury, Oct. 20.
Nantucket--Nantucket, Sept. 29.
Norfolk--Dedham, Sept. 24.
Plymouth--Bridgewater, Oct. 1.
Worcester Horticultural, Sept. 15, 18.
Worcester--Worcester, Sept. 17.
Worcester West--Barre, Sept. 24.
Worcester North--Fitchburg, Sept. 29, Oct. 1.
Worcester South--Sturbridge, Oct. 1.
Worcester Southeast--Milford, Sept. 29.

CONNECTICUT.

Connecticut Horse Show--Hartford, Sept. 8, 10.
New-London--Norwich, Sept. 29. Oct. 2.
Windham--Brooklyn, Sept. 22, 24.

NEW-BRUNSWICK.

York--Fredericton, Oct. 7, 8.

UPPER CANADA.

Durham West--Newcastle, Oct. 8, 9.
Lanark--Almonte, Sept. 15.
South Lanark--Perth, Sept. 17, 18.
Toronto and West Riding York--Toronto, Oct. 6, 8.
Wentworth and Hamilton--Hamilton, Oct. 14, 15.

NEW-YORK.

Albany--Albany, Sept. 29, Oct. 2
Alleghany--Angelica,
Afton Town--Afton, Sept. 15, 16.
Broome--Binghamton, Sept. 8, 10.
Brooklyn Hort. Society, Sept. ——.
Brookfield--Clockville, Sept. 22, 24.
Cattaraugus--Olean, Sept. 22, 24.
Cayuga--Auburn, Sept. 29, Oct. 1.
Chatauqua--Panama, Sept. 22, 24.
Chenango--Norwich, Sept. 29, Oct. 1.
Columbia--Hudson, Sept. 29, Oct. 1.
Delaware--Delhi, Sept. 29, Oct. 1.
Duchess--Washington Hollow, Sep. 22,24.
Ellisburgh and Adams--Ellisburgh, Sept. 10, 11.
Essex--Elizabethtown, Sept. 17, 18.
Erie--Buffalo. Sept. 16–18.
Fulton--Fondas Bush, Sept. 30, Oct. 1.
Genesee--Batavia. Sept. 30, Oct. 1.
Harpersville--Harpersville, Sept. 23, 24.
Herkimer--Ilion, Sept 23, 25.
Jefferson--Watertown, Sept. 29, 30.
Lewis--Lowville, Sept. 9, 11.
Little Falls Farmers' Club--Sept. 23, 25.
Manlius and Pompey—Manlius, Oct. 1, 2.
Monroe--Rochester, Sept 8, 10.
Oneida--Rome, Sept. 8, 10.
Orange--Goshen, Sept. 29. Oct. 1.
Orange Horse Show--Middletown, Sept. 2, 3.
Orleans--Albion, Sept. 17, 18.
Oswego--Mexico, Sept. 22, 24.
Otsego--Cooperstown, Sept 30, Oct. 1.
Ontario--Canandaigua,
Oxford Town--Oxford, Sept. 21, 23.
Queens--Hempstead, Oct. 1, 2.
Rensselaer--Troy, Sept. 7, 11.
Schuyler--Watkins, Sept. 24, 26.
Schoharie—Schoharie, Sept. 23, 25.
Seneca--Ovid, Sept. 9, 11.
Smithville Town, Sept. 10, 11.
St. Lawrence--Canton. Sept. 22, 24.
Susquehanna Valley--Unadilla, Sept. 24,25
Saratoga--Saratoga Springs, Sept. 1, 4.
Trenton Union--Trenton Falls, Sept. 1, 3.
Ulster--Kingston, Sept. 22, 24.
Warren--French Mountain, Sept. 23, 25.
Washington--Salem, Sept. 9, 11.
Westfield--Chautauqua, Sept. 9, 11.
Wyoming-- ——Sept. 22, 23.
Yates--Penn Yan, Sept. 29, Oct. 1.

NEW-JERSEY.

Burlington--Mt. Holly, Oct. 6, 7.
Monmouth--Freehold, Sept. 23, 24.

PENNSYLVANIA.

Bucks--Newtown, Sept. 30, Oct. 1.
Glenwood--Susque. Co., Sept. 15, 17.
Susquehanna--Montrose, Sept. 30, Oct. 1.
Wyoming--Wyoming, Oct. 20, 22.

DELAWARE.

Newcastle--Wilmington, Oct. 6, 8.

INDIANA.

Fayette--Connersville, Sept. 1, 4.
Hendricks--Danville, Sept. 15, 17.
Harrison--Corydon, Sept. 8, 11.
Morgan--Centerton, Sept. 8, 11.
Posey--New Harmony, Oct. 6, 8.

MICHIGAN.

Berrien--Michigan, Oct. 1, 2.

WISCONSIN.

Fond du Lac--Fond du Lac, Oct. 1, 3.
Green Lake--Berlin, Sept. 23, 24.
Monroe--Sparta, Oct. 8, 9.
Sheboygan--Sheboygan Falls, Sept. 23, 24
Vernon--Viroqua, Sept. 22, 24.

MINNESOTA.

Dodge County--Wasioja, Sept. 24, 25.

CALIFORNIA.

San Joaquin--Stockton, Sept. 22, 25.
Contra Costa--Pacheco, Sept. 21, 25.

OHIO.

Ashtabula--Jefferson, Sept. 2, 4.
Blanchester--Clinton, Sept. 29, Oct. 2.
Butler--Hamilton, Oct. 6, 9.
Clinton--Wilmington, Sept. 9. 11.
Conneaut--Ashtabula, Sept. 23, 25.
Columbiana--New-Lisbon, Sept. 23, 25.
Cuyahoga--Cleveland, Oct. 6, 9.
Delaware--Delaware, Sept. 30, Oct. 2.
Franklin--Columbus, Sept. 8, 11.
Garretsville--Portage, Sept. 29, Oct. 1.
Geauga--Burton, Sept. 9, 11.
Geauga--Claridon, Sept. 22, 24.
Harrison—Cadiz, Sept. 30, Oct. 2.
Highland--Hillsboro, Sept. 9, 11.
Huron--Norwalk, Sept. 22, 25.
Lake--Painesville, Sept. 30, Oct. 2.
Loraine—Elyria, Oct. 6, 9.
Madison--London, Sept. 9, 11.
Mahoning--Youngstown, Oct. 6, 8.
Madison Town--Groveport, Sept. 23, 25.
Marion--Marion, Sept. 23, 25.
Miami--Troy, Sept. 30, Oct. 2.
Madison--London, Sept. 9, 11.
Muskingum--Zanesville, Sept. 8, 11.
Orwell District--Orwell, Sept. 22, 24.
Paulding--Antwerp. Oct. 1 2.
Pickaway--Circleville, Sept. 30, Oct. 2.
Richland--Mansfield, Sept. 29, Oct. 1.
Seneca--Tiffin, Sept. 30, Oct. 2.
Summit--Akron, Sept. 30, Oct. 2.
Stark--Canton, Oct. 7, 9.
Twinsbugh--Twinsburgh, Sept. 9, 11.
Trumbull--Warren, Sept. 29, Oct. 1.
Tuscarawas Valley--Massillon, Sept. 30, Oct. 2.
Van Wert--Van Wert, Oct. 1, 2.
Warren--Lebanon, Sept. 23, 25.

ILLINOIS.

Bureau—Princeton, Oct. 6, 10.
Carroll--Mt. Carroll, Sept. 17, 19.
DeKalb--DeKalb, Sept. 15, 17.
Hancock--Carthage, Sept. 22. 25.
Kane—Geneva, Sept. 30. Oct. 2.
Kankakee--Kankakee, Sept, 16, 18.
La Salle--Ottawa. Sept. 8, 11.
Lee--Dixon, Oct. 14, 16.
Macoupin--Carlinville, Sept. 22, 25.
Marion--Salem, Sept. 16, 18.
Madison--Edwardsville, Oct. 6, 9.
Marshall--Henry, Sept. 16, 18.
McHenry--Woodstock, Oct. 7, 9.
McLean--Bloomington, Sept. 7, 11.
Mercer--Millersburgh. Sept. 22, 24.
Morgan--Jacksonville, Sept. 15, 18.
Ogle--Oregon, Sept. 22, 24.
St. Clair--Belleville, Sept. 15, 18.
Stark--Toulon, Sept. 22, 24.
Tazewell--Tremont, Oct. 7, 9.
Union Fair--Warren, Sept. 21, 24.
Vermillion--Catlin, Sept. 1, 4.
Winnebago--Rockford, Sept. 15, 18.
Whiteside--Sterling, Sept. 22, 25.

IOWA.

Benton--Vinton, Sept 24, 25.
Central Iowa—Des Moines, Sept. 8, 10.
Cedar--Tipton, Sept. 23, 25.
Chickasaw--New-Hampton, Oct. 8, 9.
Clayton--National, Oct. 14, 16.
Des Moines--Burlington, Sept. 30, Oct. 2.
Floyd--Charles City, Sept. 23, 24.
Fayette--West Union, Oct. 6, 7.
Guthrie--Sept. 29, 30.
Jackson--Maquoketa, Sept. 29, Oct. 1.
Linn—Marion, Sept. 16, 18.
Muscatine--Muscatine, Sept. 1, 3.
Page—Clarinda, Sept. 24, 26.
Pottawattamie--Council Bluffs, Sep. 24,25.
Scott--Davenport, Sept. 7, 11.
Union--Wheatland, Sept. 30, Oct. 2.
Van Buren--Keosauqua, Sept. 30, Oct. 1.
Warren--Indianola, Sept. 3, 4.

MISSOURI.

Cole--Jefferson City, Oct. 4, 6.

☞ A short time ago the editor of the Ohio Farmer mentioned sales of Wool in a single week, of not less than three hundred thousand pounds of the new clip, in the counties of Clark, Madison and Union—one hundred and eighty thousand pounds of which were bought on the ground at from 68 to 75 cents, the average being about 74 cents per pound. The fleeces of the present year were thought to be from three-fourths to one pound each, lighter than last year

☞ Albion Ransom, Esq., of this city, has left at our office the top of a sucker grown this year from the root of the Doolittle Raspberry, which has six or seven fruit-shoots upon it, and bore 25 or 30 of the largest berries of this variety we have ever seen. It is very rare that fruit is thus produced on wood of the same season's growth; among a large number of similar suckers, this was the only one that showed signs of the kind, and it not only bore, but the berries produced were superior to those on the parent plant.

CONVERSATIONS ON SMALL FRUITS.

Management of Blackberry Bushes.

Novice. What a sight! Why, Mr. P., I never saw such loads of blackberries as these. How do you manage your bushes? They are so snug and handsome. Mine grow all about in every direction, and scratch every body that comes within half a rod of them, and they don't half bear at that.

Planter. The management is a very easy thing, if you only know how. It is quite as easy as hoeing corn and thinning out turnips.

N. I really thought you had some wonderful secret. I should like much to know what your management consists in; do you manure them very highly?

P. They need a good soil—if naturally rich, a moderate and occasional manuring is only required; but you must keep the ground clean, mellow, and well cultivated.

N. But how do you fix it so that they don't grow over half of creation? Your bushes are neat and handsome, and one can pick the berries without being scratched, or any other inconvenience; my women folks get their dresses so torn that they want me to dig out and throw away the ugly briars.

P. In the first place, you must let very few grow—cut up and clear away all the suckers; and now comes the great secret—never allow the plants to grow more than four feet high, nor the branches to extend more than a foot laterally.

N. Why, really, I should like to know how to prevent them from growing—mine do it without asking leave.

P. Simply pinch off the ends of the young shoots by thumb and finger. You must watch them, and do it in time. You will be likely to omit it until a few days too late, when the stems have grown five or six feet high, instead of three or four.

N. But is this all? It seems to me that wouldn't be enough to produce your handsome bushes.

P. By no means; this is only the beginning—here is where so many fail. Capt. Brown and Deacon Reed have both attempted to carry out my recommendations—only pinched the tops once or twice, and that was the end of it. They soon grew as rapidly as ever, and they said the blackberry wasn't natural to their grounds as it was to mine, and they intended to give them up.

N. Well, Mr. P., what should they have done?

P. Simply to pinch and keep pinching. Pass along the row at least once a week during the growing season, and never allow a single shoot to extend beyond limit. Pinching back is better than cutting back, but if necessary, cut the shoots back within the prescribed limits. Let no bush be more than four feet high, nor more than three feet in diameter horizontally. Keep them in a handsome form; my rule is to imitate the outline of the berry, that is, with a rounded, oval head.

N. I see some of your bushes are staked up, and others not; what is the reason of this difference?

P. Some of the bushes grow stiff and upright, and do not need staking; others lean over, and these I stiffen up.

N. Well, this way of management is really worth knowing, if it makes so much difference in the looks of the bushes and the size of the crop. Why, Mr. P., how did you ever come to think of this way?

P. Partly in two ways; one, on the general principle that summer pinching induces fruitfulness, and partly from remembering when I was a boy picking blackberries, that the bushes the cows had browsed in were always full of berries.

Culture of the Currant.

N. I wish to ask you, Mr. P., about some new kinds of currant bushes that I bought a few years ago on account of their large size, but I have forgotten their names. The nurseryman's agent told me that they would grow more than half an inch in diameter; and at first, when they had a few berries, I thought they were going to be large, but of late they are so puny, that I have concluded he cheated me.

P. You have forgotten the names—they might have been the Cherry and Victoria. How do you manage them?

N. Manage them? I didn't know they needed any managing; I planted them out under the fence, with the rest of my currant bushes.

P. Among the grass, I suppose?

N. Why, yes—I believe the grass does grow among them.

P. And so you have given them neither cultivation nor pruning. I cannot say whether the man cheated you or not, and it makes very little difference. Unless you take care of what you purchase, you might about as well throw them away. I have seen the May's Victoria currant, which I knew to be genuine, and which is quite a large variety, when grown in neglected ground not a particle larger than the old red currant, and the owner was sure that he had been swindled. One great advantage in the large new sorts, is not that they will show their merits under any kind of treatment, but that they will bear proper pruning and good cultivation, and remunerate this care by the rich masses of large berries they produce.

N. Why, I thought the great advantage of the currant was in taking care of itself.

P. It will indeed take care of itself and bear crops, but it so well repays good management that it ought always to receive it. I have more than quadrupled the size of the common red currant by pruning and rich cultivation. The newer sorts are still more improved. A fruit with so certain a crop—scarcely ever killed by frost—never affected by rot—never stung by the curculio—and ripening at so convenient a season—is of great value, and is entitled to the best treatment.

N. What particular kind of treatment would you give the currant bush? Would you manure it? How would you trim it?

P. I would of course manure it, unless the soil was already very rich. Keep the ground clean and mellow, and prune so as to maintain a constant, thrifty growth.

N. I have heard of the mode of training currant bushes in the form of a tree, or with a head on a stem a foot or two high. What do you think of this way?

P. Our climate is too hot; the stem is exposed to the sun, and it should not be over an inch or two in height. With this requisite, it is much better than grown in a dense bush full of suckers. Even the latter, however, may be much improved by cutting out the old crooked wood, and leaving an evenly distributed set of new shoots. These will bear larger and finer berries.

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☞ The next Iowa State Fair is to take place at Dubuque, Sept. 15–18. The Secretary of the Society, Mr. J. M. Shaffer, writes us that "it will excel all its predecessors as a useful, attractive and interesting exhibition," and thinks that eastern people could take no better opportunity of coming West for a visit, than at that time—bringing with them anything they may have to exhibit to the farmers of his flourishing young State.

A WORD FOR THE OSAGE ORANGE.

So much has been said pro and con relative to this much abused or misrepresented tree, that a true or correct opinion cannot be formed of its usefulness by ordinary persons, from all that may be selected from the agricultural journals. A short history of my experience with it may be of service to those who may be disposed to try it as a hedge plant.

I began by plowing my field on the borders, six feet wide, and then pulverizing the ground as fine as it could be made with the harrow. In the middle of the six feet I set my plants. The ground should be of uniform fertility, otherwise the plants will grow irregularly—some vigorously, some poorly. If there is a difference in the soil, that which is poor must be enriched. The plants of the hedge row must be selected all of the same size, as near as possible. I set my plants 12 inches apart in the row—this is about the right distance. The plants should be grown from the seed in a nursery, and transplanted at a year old. It is immaterial whether you cut off the top of the plant now; some persons advise to cut it off about 3 inches above the ground when you plant them, and some advise double rows in alternate lines. This is useless, as the sequel of this paper will show. The plan herewith proposed will make the hedge barrier greatly more defensive. The whole of the 6 feet of ground thus prepared and planted must be kept free from weeds all the time, which can be easily done by the cultivator being often used, and an occasional hoeing between the plants. The plants will grow from 2 to 4 feet high the first year, according to the soil.

In the spring following the first year's planting, plow the same 6 feet, and put in good order for the growth of the second year; pulverize and make fine the soil on each side of the hedge, throwing the soil slopingly up to the hedge; then with a spade throw out the soil from the hedge row to the outside border of the pulverized strip on each side of the hedge, about 2 feet from the hedge, with a slope from the hedge to the outter part of the strip, making it so that the soil will be 6 inches higher at the hedge plants than 2 feet from them, giving a regular slope from the plant outward; then cut off the plants to 2 feet; bend them down on the slope prepared for them, and cover the ends for a foot with the soil thrown back on them. All the buds on the upper surface of the plant thus bent over will throw up a stem, and the ends thus covered will take root. The bending down of the plants can be easily effected by taking a rail 8 or 9 feet long, bending down the plants and laying the rail on them till you cover them with the earth; then take up the rail and continue the same process throughout. Tread down the soil, so as to hold the plants in their place, before removing the rail. Thus you will have a hedge with a commencing base of 3 or 4 feet. The second year you may form the hedge to your wish, and this is the most important part about it. Without a good base or bottom the hedge will be altogether worthless, and this must be effected during the first and second year's growth of the plant. This is paramount to all other directions, and only to be obtained by heading down the plant during the early periods of its growth. The plants should be cut so as to keep an even conical or pyramidal shape all over from sides to top. When fully grown trim twice a year. This is the whole philosophy of making a hedge of the osage orange that will give pleasure and satisfaction to the owner.

The conflicting accounts relative to success with this highly useful and beautiful plant have originated in ignorance of its proper treatment and that assiduous attention which it requires till the hedge is complete.

It may be well to mention that my hedges are on clay soil, with a high elevation, such as may be called good wheat lands, very different from the natural habits of the plant in its native soil on the Trinity in Texas, where it is often for a period inundated and overflowed. Yet on this elevation of 540 feet above the level of the Ohio, it grows and flourishes beautifully. My farm is laid off in 10 acre lots, all surrounded with the osage orange hedges as described above, and which in two years more will present a spectacle beyond competition, at least in this State.

I will close my remarks with this advice: "Let no one attempt to make an osage orange hedge who does not resolve to do it in a proper manner."

Melmont, Harden Co., Ky., July 5, 1863. T. C. J.

Ornamental Gardening---Seasonable Hints.

The rapidity of early growth having somewhat abated, less labor will be now required in maintaining the order in all parts of the grounds. Lawns which needed mowing every two or three days early in the season, may now be kept in good order by mowing once a week. Weeds will not spring up so freely; but great care should be taken to prevent any from going to seed, and flower-beds should be kept in perfect order. Annuals, which are to bloom through autumn, may frequently be much improved in the appearance of the plants, and the mass of bloom increased, by pinching or cutting back rampant or straggling branches, so as to give beauty and symmetry of form. Those who wish to make bouquets, may frequently improve the plants by cutting off such straggling parts. By preventing the profuse flowering of bedded plants, the removal of a portion of the bloom for this purpose will prolong the season. Dahlias, and others of the larger and more succulent ornamentals, will need staking up to prevent injury from winds and storms. Those who have green-houses, may commence layering verbenas—which, after a few weeks, may be removed to pots, where they will become well established before winter; if left too late, success in keeping will be less certain. For such as are not supplied with a green-house, it is much easier and cheaper to purchase of dealers verbena plants in spring.

Cuttings of various ornamentals may now be made, and the newly grown plants will possess more vigor and beauty than the old ones which they may replace. Cuttings are easily grown, the principal requisites being to place the ends in sand, and to preserve an abundance of moisture above them. Pots are usually best and most convenient, and should have a good drainage below; the moisture may be retained over the plants by bell-glasses, or even by inverted tumblers. A large number may be started in a single pot, but they should not be removed to separate pots until they have struck good roots and made some growth.

Collecting seeds should be commenced and continued as fast as they ripen. The most beautiful varieties and specimens should be marked while in flower, as in this way new and improved sorts are obtained. All plants propagated by seeds tend to vary more or less from the original; and unless improvement is constantly attempted, there will be most likely a considerable deterioration. Seeds will ripen more perfectly if kept in their capsules or seed-vessels until perfectly dry; but care should be taken that the descriptions of each be kept with them, so as to be written distinctly on the papers when put up and packed away in drawers for winter.

THE CULTIVATOR.

ALBANY, N. Y., SEPTEMBER, 1863.

☞ THE ANNUAL REGISTER OF RURAL AFFAIRS for 1864 is now in press. The usual amount of labor and expense have been laid out upon its contents and illustrations, and we think it will rank as one of the most interesting and useful numbers in the series of which it is the tenth.

The purpose of this notice is to apprize ADVERTISERS that a few pages will be devoted to their wants, as heretofore. THE ANNUAL REGISTER remains as a work of constant reference throughout the year; it reaches the hands of several thousands who are not subscribers for either of our other publications, besides its large circulation in connection with the COUNTRY GENTLEMAN and CULTIVATOR. The back numbers remain in demand year after year, so that the advertisements are constantly brought into new hands. It had been our intention to increase the price of advertising space the coming year, as it has always been more moderate in proportion to circulation than in any other publication of the kind with which we are acquainted. But we have concluded to continue the old rates, as published below, until a time of greater activity in business enterprize. Meantime, as the sales of the ANNUAL REGISTER continue large not only throughout the Autumn and Winter, but also late into the coming Spring, we may suggest that advertisers should bear in mind this fact in the preparation of their favors: manufacturers of Mowing and Reaping Machines, Plows and other Implements, as well as Nursery and Seedsmen, Breeders, etc., will "be first in the field" for 1864 by taking this medium of reaching the agricultural public.

TERMS OF ADVERTISING IN THE ANNNUAL REGISTER.

One Page,	$20.00	One-Third Page,	$8.00
One-Half Page,	12.00	One-Fourth Page,	6.00
Business Cards (Live Stock &c.) from	$3 to $5		

Our friends will oblige us by sending their advertisements *as soon as possible; the space desired should be specified*, in order that the matter may be set as conspicuously as the prescribed limits may permit.

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☞ Mr. M. MILES, of the State Agricultural College of Michigan, passed through this city the other day, with the following valuable animals, just purchased by him for the farm connected with that Institution: From the Short-Horn Herd of SAM. THORNE, Esq., the young bull "Fatalist, roan, calved Feb. 19, 1861, by 2d Duke of Thorndale, (17748) out of Favorite, one of Mr. Thorne's most successful cows, having taken the 1st prize as a yearling at the Syracuse State Fair, in 1858, and as a two year old at Albany, in 1859, and her dam Frederica being equally successful as a winner abroad. Also the cow "Dielytra," red, calved May 20, 1858, bred by J. R. PAGE, by Hiawatha, out of Dinah Gwynne, and now in calf to 2d Grand Duke. Mr. M. has also purchased from the Short-Horn Herd of F. M. ROTCH, Esq., Morris, Otsego Co., the heifer "Haze," dark roan, calved March 28, 1862, by Lord Oxford, out of Honeysuckle. Together with the animals mentioned above, purchased from Mr. Thorne, Mr. MILES had also with him the following Devons, purchased from the Herd of E. G. FAILE, Esq., West Farms:—Bull "Cherokee," calved May 31, 1861, by Powhatan, out of Bowley—heifers, "Zuleika 2d," calved April, 1861, by Huron, out of Zuleika—and "Eveleen 5th," calved March, 1862, by Cayuga, out of Eveleen.

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☞ In the COUNTRY GENT. of Oct. 3, 1861, we gave some notes as to the productiveness of the farm of ORANGE SACKET, Esq., near Avon, Genesee Co., which had averaged, we were informed, *thirty-four bushels of wheat per acre* every year for twenty years—with from one hundred to two hundred acres each year sown to that grain. Such a story bears repetition once in two years at least, for the sake of a hint in answer to the question, "how is it done?" Mr. HARRIS of the Genesee Farmer, has lately called upon Mr. S., and gives us an inkling of the secret: "Mr. S. keeps a large stock of cattle and sheep, and *makes great quantities of manure.*" He spreads it on the clover fields at any time when it is most convenient—was formerly of the opinion "that manure should be plowed under," but has "come to the conclusion that there is less loss by spreading it on surface than is generally supposed."

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☞ Mr. J. C. TAYLOR, Holmdel, N. J., sends us a circular with reference to the South-Down sheep advertised in another column, copies of which may be had by addressing him as above. He offers *to rent* the rams "No. 109" and "No. 106," bred by the late Jonas Webb, together with several others of high reputation, and *for sale* about fifty ram and ewe lambs, a very superior lot of yearling rams, and a few breeding ewes. We infer from Mr. TAYLOR'S circular that he expects to exhibit at the coming Utica State Fair, in which case our readers in this State will have the opportunity of seeing examples of this excellent flock, side by side, we hope, with those of some of our own breeders of equal energy and repute.

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☞ Mr. A. THOMAS of Fond du Lac Co., Wisconsin, sends to the Co. GENT. the following statement as to a heavy fleece of wool from a ram bred in that State:—"On the 27th day of June last I sheared from a full blood Spanish Merino buck, *twenty-two and a half pounds* of wool, it being three days less than a year's growth. The wool is of fine quality, and the fleece is not only heavy, but very large, being free from gum, and has a much less proportion of oil than is usually found in the heaviest fleeces. This buck is three years old—was sired by a buck from the flock of Stickney & Robinson of Vermont, and is owned by M. Barstraw and myself. I would like to hear from any one, through your valuable paper, who thinks he has a better sheep."

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☞ A Wisconsin subscriber gave in the last number of the Co. GENT. the weight of the Fleece sheared by him, this spring from a Merino ram bred in that State. Whereat a Vermont subscriber, Mr. N. T. SPRAGUE, Jr., writes to say that a ram of his, called "Sweepstakes," 3 years old last May, having served during the season 200 ewes, sheared, 12 months' growth, 25 pounds 4 ounces "wool;" that a two year old ewe, with lamb by her side 8 weeks old, sheared 16 pounds 6 ounces, and that a three year old ewe, with buck lamb by her side 9 weeks old, sheared 16 pounds 10 ounces. These sheep were all bred by Mr. S. from pure Atwood stock, and he thinks the fleece of "Sweepstakes" would have been "from 3 to 5 pounds heavier if he had not served more than 75 ewes last season."

☞ A meeting of the Executive Committee of the State Agricultural Society, was held at Utica last week. The Grounds and Buildings for the coming Show were found to be in a forward state. The Erections are in some respects superior to any ever before prepared for the use of the Society, and Exhibitors will find every convenience provided to meet their wants.

In the present prosperous condition of our Agriculture, a large attendance and show may be confidently anticipated. Indeed everything thus far indicates that such will be the case. The attention of the Western part of the State was attracted anew to the operations of the Society by the great success and good feeling that attended its Rochester exhibition. Utica is readily accessible to the Northern part of the State, which was deterred by exceedingly unfavorable weather, from turning out in very large numbers at Watertown, in 1861,—and to all the Eastern part of the State, which has now had no good opportunity of reaching the shows, since that at Albany in 1859.

We are therefore led to hope that we may have a fuller and fairer exhibit than usual, of the present condition of the Agriculture of the "Empire State." The people of Utica, under the energetic lead of JOHN BUTTERFIELD, Esq., are certainly doing all in their power—notwithstanding the high prices of material and labor—to render the coming Show as creditable to them, as our Farmers and Breeders and Manufacturers should see that it is to the enterprise and prosperity of the rest of the State.

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"CASHMERE SHAWL GOATS."—Mr. JOHN H. KLIPPART exposes in the Ohio Farmer, the fallacy of the idea that the "Cashmere Goats," of which a good deal has been said for a few years past in this country, can be expected to produce annual fleeces of "five or six pounds per animal, which could be sold for $8 per pound and manufactured into genuine Cashmere shawls." He shows that the actual admeasurement of the hair or wool yielded by them, proves it to be of about the same coarseness as that of Cotswold or Leicester sheep. But what they *do* produce, that is estimated at a high value, is "a fine down, found around the roots of the fleece of the goat, from which the genuine Cashmere shawls are made." Of this the quantity may reach one-half or three-quarters of a pound, but Mr. K. evidently has not much faith that many genuine Cashmere shawls will very soon be made out of it. He inclines to the opinion, however, that "in course of time, when we get the proper machinery, and there are goats enough to supply manufacturers, these fleeces may be manufactured into De Laines, Challies, and other textile fabrics of the same description, for which Cotswold, Leicester and other long or combing wools are used." As the ordinary value of such wools is about 25 cents per lb., and since importations of these goats into France and England are said to have proved that, in these countries, they produced too little down to be of any value—the inducement to farmers to pay at the rate of some hundreds of dollars per head for these interesting creatures, is sadly diminished.

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☞ The Committee of the citizens of Nova Scotia, having in charge the contributions of that Colony at the International Exhibition of Roots, Fruits and Cereals, at London last Autumn, have issued their Report in pamphlet form, for a copy of which we are indebted to C. H. BELCHER, Esq. The Committee was awarded a silver medal on the assortment of apples (63 plates) contributed by them, and six bronze medals on grapes, onions, grains, agricultural roots, potatoes and gourds. Six other bronze medals were also awarded to various exhibitors from the same province for other contributions. The result has been the establishment of a Provincial Horticultural Society under the following officers: President, R. G. HALIBURTON, Esq.; Secretary, D. Henry Starr; Patron, his Excellency the Earl of Mulgrave—with five Vice Presidents, and a Council of six members for the county of Halifax, and four each for the counties of Hants, Kings and Annapolis. A general meeting will be held at Halifax on the first Wednesday of April next, to perfect the organization and decide upon the future operations of the Society.

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THE STATE AG. SOCIETY AT THE HAMBURGH EXHIBITION.—*Eds. Co. Gent.:* I received this morning, from A. BALDWIN, Esq., Commissioner of the Society to Hamburg, a letter advising me of the general success of the Exhibition. He says:—"Your seeds (from New-York State Agricultural Society) attracted great attention, and have been given to the Swedish Commissioner, and in exchange we have received one of the finest collections of seeds I have ever seen, which are elegantly put up in glass jars, and will be shipped by sailing vessel. I hope they will arrive safely. I shall be the bearer of a Hamburg flag, which was presented for the use of your Society at the next Fair. There is a strong American feeling at this place, and a warm feeling of personal friendship has grown out of this exhibition."

Albany, N. Y., August 11. B. P. JOHNSON.

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SHARES' COULTER HARROW is a superior implement, dooming all other harrows to oblivion. By all means get one. Have tried it one summer, and could tell of many marvelous things it has done. Used it "on the sly" in the garden, fearing the ridicule of my neighbors, but now boldly announce its superiority.

TIMOTHY.—I found about twenty timothy stalks among my Lawton blackberries; they averaged over five feet. One five feet and eleven inches, another six feet and one inch. The head of this stalk was eight inches. In their growth they rivalled the Lawton. A. B. PALMER.

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INDIAN CORN AS A FERTILIZER.—In the last number of the Co. GENT. you request any reader of your paper who has tried green crops as a fertilizer to relate his experience concerning it. Some eight years ago I plowed under an acre of green corn, as an experiment. I sowed the western corn—had a large growth, let it stand till ripe enough to cut for fodder, rolled it down smooth, and plowed it under to my entire satisfaction, sometime in the month of September. I expected great results from it, for how could it be otherwise with such a quantity of green corn turned under *just right.* The weather was wet and warm for two or three weeks after I turned it under, which I concluded was also favorable to produce vegetable mould. The result was next to nothing—in three weeks it had all vanished—hardly a trace could be found by digging down where it was buried. I saw *no effect* of it on the succeeding crop, which was spring wheat. My opinion is that it is of little worth as a fertilizer. W.B.

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A NEW HONOR.—The King of Saxony has sent Baron Liebig the cross and insignia of a Commander of the Order of Albert, "in recognition," such are the words of the accompanying decree, "of the services he had rendered to agriculture in Saxony, in which the practical working man had in manifold instances been benefited by his teaching, and on account of the undeniable success resulting from the impulse he had given."

Albany County Fair.—The officers of the Albany County Agricultural Society have appointed the 29th and 30th of September and the 1st and 2d days of October, as the time for holding the next Annual Fair at the Washington Parade Ground in this city. The list of premiums offered amounts to some $1,500, and it but remains for the farmers, mechanics and manufacturers to enter freely and fully into the exhibition, and the Fair cannot fail to be one of the best ever held by the Society. The resignations of the former Treasurer and Secretary, some weeks since, have been filled by the election of John McHarg of Bethlehem, to the former office, and G. I. Van Alen of Albany, to the latter. Mr. Van Alen's office is at Number 50, State-St.

Instead of offering premiums on Implements, and other manufactured articles, the Board have decided to permit manufacturers and dealers exhibiting at the Fair to make sales and solicit orders upon the grounds, and, after the Fair is over, will publish a *full Catalogue of all articles* entered in the Manufacturer's Department, with the name of the manufacturer or exhibitor of the same, and the place where manufactured or kept on sale, in connection with the other transactions of the Society. Three thousand copies will be published, and manufacturers, and others who operate machinery on the grounds during the Fair, by steam or horse power, will also be allowed a half page advertisement in this pamphlet free of charge. To others a charge will be made. For particulars, see the Premium List and Regulations, which may be had of Secretary Van Alen as above, or at this office.

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☞ Mr. P. G. Northrup, President of the Delaware County Agricultural Society, in announcing through the Franklin Visitor, the holding of its next Fair at Delhi, Sept. 16–18, refers to the Agricultural Statistics he has been collecting for the county for the year 1862. He says they are nearly completed, and gives a few interesting details, from which we derive the following statement as to the average yield of Butter per cow, in several Towns and private Dairies:

	No. of Cows.	Average Butter per Cow, 1862.
Town of Walton, ...	2,064	116 pounds.
do. Masonville,..................	—	110 do.
do. Davenport, ...	—	130 do.
do. Sidney, ...	—	144 do.
do. Andes.........................	—	123 do.
Hiram Olmstead, of Walton,....	13	244 do.
A. Van Dyke, Roxbury, ...	22	218 do.
School District No. 2, Roxbury,.....	382	172 do.

Mr. N. adds, what is a very good idea for the imitation of other Societies, that the Delaware County Society has a Herd book, kept for the purpose of showing at a glance, where the blooded stock of the county is kept. Those having improved breeds of horses, cattle and sheep, are requested to register the pedigrees with the Secretary, as well as the particular merits claimed for the breed.

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☞ Last year we received from C. B. Miller's Horticultural Agency, 634 Broadway, New-York, a specimen of the *Daphne Cneorum*—a flowering plant which has proved itself worthy of wide dissemination. It is an evergreen, and flowers very early in the spring, having a very fragrant as well as ornamental blossom, and blooming very freely. We find it *perfectly hardy.* It passed through last winter here entirely without protection of any kind, and flowered freely on the approach of warm weather. The flowers having soon after fallen off, we supposed its beauty was mainly past for the year; but to our surprise and pleasure, a fortnight or so ago it again came into bloom, and has since been completely covered with flowers. In our garden it is less than a foot in height, is shrubby in growth, and its foliage is very pretty at any time. We consider it a decided acquisition, and when its merits are known, it must become one of the must popular plants of the kind for bedding purposes. It has been recommended to protect it with straw in winter; and we were agreeably disappointed to find that, last winter at least, such precaution was unnecessary. What is the best mode of its propagation, Mr. Miller?

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☞ John H. Klippart, Esq., Secretary of the Ohio State Board of Agriculture, will please accept our thanks for copies of his Reports for the years 1858–59–60–61, together with other publications. The latest returns we find in them, of the crops of the State, are for the year 1859, and we have computed from them the following averages, for the sake of comparison with the figures published in our last number as to the crops of 1862:

Grain Crops of the State of Ohio for 1859 *and* 1862.

	1862. Av. per Acre.		1859. Av. per Acre.		1862. No. Acres.	1859. No. Acres
Wheat, ...	14.39	bushels,	7.45	bushels.	2,090,047	1,790,627
Rye.	12.20	do.	5.73	do.	67,440	98,011
Barley, ...	20.65	do.	15.95	do.	59,128	102,729
Indian Corn, ..	28.96	do.	29.65	do.	2,175,531	2,339,204
Oats,...........	20.26	do.	23.34	do.	574,047	644,954
Total Acres in above Grains, ...					4,966,193	4.975.525
Add Meadow, ...					1,571,765	1.340.566
Total surface Grain and Hay,...					6,537,958	6,316,091

We take the pains to collate this statement for the benefit of those who asserted that the war was to lessen our Agricultural production. After sending, we do not know the exact number, but we believe over 100,000 of her citizens to the battle-field, here we find Ohio with some 220,000 more acres of grain and grass to harvest in 1862 than in 1859—with an average yield per acre much increased in many items, and less by a very small fraction in only one or two.

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☞ Under our Dairy head will be found an interesting lettter from Col. Pratt, showing that the quantity of Milk obtained at his Dairy Farm at Prattsville, considerable exceeds that produced in one or two Scotch dairies recently noticed in our columns. These statements we may farther compare with the one published in our last number, which Col. Pratt had not then seen,—made up from the steward's returns at the Utica Lunatic Asylum, where the cows receive an extra degree of attention, and where the amount of milk obtained proves that great success has been reached in their management. The following is the result of the comparison:

Average Yield of Milk per Cow per Year.

At Frocester Court, Scotland, 5 years, 1857 to 1861, ...	2.103	quarts
At Col. Pratt's Dairy Farm, do. do.	2.383	do
At the Utica Lunatic Asylum, 4 years. 1858 to 1861.	2,532	do.
At the Utica Lunatic Asylum for the year 1862, increased by Steamed Food, as described in last number,	2,949	do.

If any of our readers who are dairying, either for the sale of milk, or for the production of cheese or butter, have kept tables of the quantity of milk annually yielded per cow, we should be glad to receive the results, not necessarily for publication, but in order to arrive at an estimate of what constitutes a fair average yield.

It would be likely to promote a more reflecting and a more *successful* kind of management, if farmers would generally be more careful to keep such statistics—both as proving to themselves how high a degree of success they are reaching as compared with others,—and as leading to deductions which must be very instructive with regard to food, shelter, treatment, &c., when changes are found to produce an increased or diminished product in the milk-pail. In this respect Col. Pratt's Dairy Farm is a model to the State.

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☞ The Fteenth Annual Fair of the Michigan State Agricultural Society will be held on the 23d, 24th, 25th and 26th of September, at Kalamazoo.

Inquiries and Answers.

POULTRY-HOUSE.—I have been looking over all your works that I have, (Rural Registers and Co. Gent.,) for a suitable plan of a hen-house, and the quantity of land requisite for the accommodation of 300 hens, but I have not found one. I am quite a novice in building, and I want a plan of every timber, so that I would have no difficulty in making out a specification for contract. I have seen continuously mentioned in your paper, how people have, and are making their $300 or $400 per annum, and as I have money to spare, I would like also to try and see if I could not do the same. I want to keep geese, ducks, hens, Guinea-fowls, turkeys, and every kind of *feathered domestic;* and want the house so planned that hens will lay in it in winter, even through our coldest weather. By the bye, there must be a fattening, breeding, and laying compartments. I want to know how much time it would take, how much lumber, nails, shingles, &c., in fact everything, and I want it soon, as I intend building so soon as I get a decent plan. Darcy Hey, *Arnwood, C. E.* [We are unable to furnish such a plan as our correspondent desires. If any of our readers can, we shall be pleased to hear from them.]

PLANTING BLACKBERRY SEED.—At what season of the year should blackberry seed be planted, and how treated? R. H. B. *Salina, Kansas.* [Wash the seed of fully ripe berries from the pulp, mix them immediately with moist sand and bury them under a flat stone, or expose them in any other way to the combined action of moisture and frost, until next spring—when they are to be sown very early in fine, rich mould, not over half an inch deep. The moisture may be kept in the soil after planting, by covering with a coarse cloth, until the new plants reach the surface. They are, in short, to be treated precisely as nurserymen usually manage mountain-ash seed.]

AMERICAN FARMING.—Will you please say for what price, and where, the best work on American Farming is to be had? Greenup. *Canada East.* [We know of no single volume embracing a full and exhaustive consideration of American Farming. Allen's "Farm Book" is the best work of its price, ($1.25 post-paid,) and kind. Emerson's "American Farmer's Cyclopedia," (sent by express for $5,) is a full and valuable volume, and is nearer the probable wants of our correspondent than any other one book. But to cover the whole ground of practical farming, and for the amount of experience afforded on nearly every question that will arise, the set of The Cultivator 1853-1862, (10 vols., 384 pages each—sent by express for $7 50,) is far the cheapest form in which so great a bulk of information can be had; and as each vol. is accompanied by a very full index, the contents of the whole are readily accessible on any subject desired. For Farming, combined with Fruit Growing, laying out Country Places, and planning Country Houses and other farm buildings, our correspondent would find the set of Rural Affairs, (3 vols., sent by mail on receipt of $3,) his best guide and assistant. Any of the works named may be had at this office.]

HORSE NETTLE.—I send you a piece of a very obnoxious weed that I found on a neighbor's farm, the seed of which he thinks came in some guano. Please tell me the (*common*) name for it, (some think it is the Canada thistle,) and how to eradicate or destroy it? J. V. S. *Glenville, Md., July* 21. [The plant sent is the *Solanum carolinense*, or Horse Nettle, a native of the Southern States, and a very troublesome weed throughout the South. It is gradually extending north, and has been found in Pennsylvania. It has no affinity whatever to the Canada thistle, except in being very troublesome and spreading by the roots. It may readily be distinguished from all thistles by its single flower of five stamens, like the potato blossom, while all thistles have compound flowers. It has oval leaves with wavy edges and some prickles on both sides of the midrib; the stem is quite prickly. It is exceedingly tenacious of life, and its thick patches crowd out every thing else. To kill it, it should be kept spaded or plowed deeply under the soil, and watched that a single leaf may not breathe above the surface. In a few months the patch will be killed.]

BEST SEED FOR PASTURE.—What kind or kinds of seed, and in what proportions, is it best to use in putting down expressly for pasture only, a dry upland lot? The soil is a fair, sandy loam, freely dressed with muck and quick lime ploughed and harrowed in. The subsoil is clay, stirred several inches deep by the subsoil plough. *Essex Co., N. J.* [The red clover should enter largely into pasture or such soil as this—it will not be profitable for the pasture to remain more than two or three years without plowing up in the course of rotation. One half or one quarter timothy seed added to the clover will be useful, especially if the pasture is continued more than two years. On heavier and more moist land, with the addition of occasional top-dressings, permanent pasture would be admissable.]

CATTLE, &c.—As I wish to change my present stock of native cattle, what other kind would you advise me to get? I want stock that will make good milkers, and that will fatten well, and are quiet in disposition—of sheep, the best suited for the North—of swine, and of poultry. J. B. S. *Brush Valley, Pa.* [As to cattle, we have no hesitation in advising you to procure a good Short-Horn bull to run with your native cows. In this way you will make a great improvement by the first cross, and then by using pure bred bulls with your best grade heifers, you will in a few years have a herd that cannot fail to suit you. All the breeds of sheep are suitable for your location, and the selection must depend upon the purposes for which you desire them, whether for wool or mutton, and the amount of care and attention you intend to bestow upon them. The Suffolk and Chester Co. Whites are among the best breeds of swine. By referring to the descriptions of the various breeds of poultry, heretofore published in this paper, you can make a selection to suit yourself.]

SUPPOSED HEMP PLANT.—Enclosed I send you two leaves of what is called here "wild hemp," and which to me has some valuable properties. What do you know of it? Could it be cultivated to profit? It grows apparently from the root, without any or very little attention. In the fall each stalk yields quite a fine bunch of strong fibre. I. P. P. *Blair Co. Penn.* [Few plants are readily recognized by the leaves alone—it is like attempting to determine the blood or breed of a horse by a clip from the hair of his tail. The leaves, however, appear to be those of the *Epilobium speciatum*—a rather common plant, with somewhat ornamental reddish-purple flowers, and disposed to spread as a weed—but we never heard of its being used for hemp, and have doubts whether it would ever be of much value in this way.]

TURNIP CULTURE.—Will not some of your correspondents enlighten us on the subject of turnip culture, and the application of superphosphate of lime? Greenup. *Canada East.* [We most earnestly wish that our correspondents who have had experience on this important subject, would contribute it for the benefit of others. It is one which ought to receive a larger share of attention and discussion.]

CANNING GREEN CORN.—Can you tell us hoosiers, through the columns of the Co. Gent., how to can green corn? W. G. L. *Southport, Ind.* [Will some of our readers please fnurish the necessary instructions.]

WESTERN VIRGINIA.—Western Virginia being now a free State, we would like to know what inducements it holds out to those wishing to get a home elsewhere. Will some one acquainted with that section of country, please give through the Country Gentleman, some of its advantages and disadvantages for an emigrant—to induce him to seek a home there in preference to the West? By so doing they will confer a favor on at least one Inquirer.

HARROW FOR STIFF LAND.—Please inform me what is the best harrow for pulverizing hard stiff ground. Our soil here is as mellow and fine as any in the world, after it has been cultivated a couple of years; but when first plowed it is so full of fern, thimbleberry and salal roots, that it is almost impossible to get it into any kind of decent tilth under two years. We generally break the ground in the fall after the rains have set in, and if we could pulverize the surface in the spring, we could raise a good crop of peas. A. R. S. *Hazelia, Oregon, July* 3. [We should be glad to receive the results of our readers' experience, as to an implement likely to answer the requirements of our Oregon inquirer. We do not know what to recommend as best, under the circumstances described]

MARKET FOR FLAX STRAW.—A considerable quantity of ground has been seeded in this section with flax. I have inquiries about a market for the straw or fibre. Can any of your correspondents advise me, through your paper or otherwise, *where* it can be sold, the probable price per ton, in what shape it can be baled for transportation, &c. Information on these matters is much wanted, and may greatly aid flax culture. Paschal Morris. *Ag. Warehouse, Philadelphia.*

CLARIFYING DOMESTIC WINE. — Will you please publish in The Cultivator, the best method of clarifying domestic wines? Please give the details as to the article used, the quantity, &c., and oblige at least one subscriber. N. H. P.

DRAINING LEVEL LAND.—I notice in the June No. of The Cultivator, an article on draining level lands, signed by Asa Hubbard. He says, to drain level lands, "dig a well in the most convenient part, down to living water; then dig a sufficient number of drains leading into the well to dry the land." The question I wish to ask in regard to it is this, why is it necessary to "dig down to living water?" Will Mr. Hubbard please answer through the columns of The Cultivator, and oblige A Subscriber.

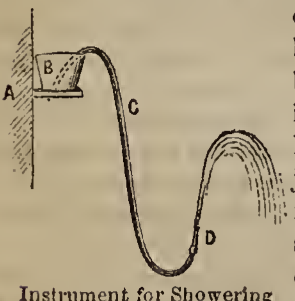
BAROMETERS.—J. P. S., *Harford Co., Md.* We have Wilder's Barometers for sale at this office in two styles—prices respectively $8 and $12. They can be sent by express, and will either of them answer the description you give. The difference in price is *mainly* in the case.

WORMS IN PIGS.—I noticed an inquiry as to what would rid hogs of worms. It is simply this—give hogs plenty of house ashes, and worms will never trouble them. A. R *Butler Co., Iowa.*

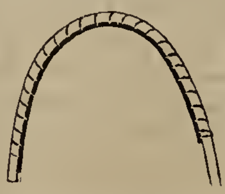
DRYING OFF COWS.—In answer to an Old Subscriber, I would say—milk the cow partially once a day, and rub soft soap on the udder each time. H. Covey.

SHOWERING WEAK EYES.

Farmers and members of farmers' families are often troubled with weak or inflamed eyes, and perhaps there is no remedy of more general application than cold water. When the disease arises from the irritation of dust, the remedy is especially applicable. The contrivance shown in the annexed cut is a very simple, efficient and pleasant one, and should be in every family. It consists of an India rubber tube, about ½ or ⅝ of an inch in diameter, and 5 or 6 feet long. Procure at any tin-shop a tin tube just large enough to fit the India rubber closely or with a slight stretching, to be inserted into one end of the tube. The outer end of this tin tube is closed with a piece of tin soldered across. Perforate this end piece with about seven holes, one at the center, the other six near the circumference; if these holes are placed near together, the jets of water will unite, which is not desired. The perforations are made best with a fine awl or drill about the size of a course pin, and they should be made pointing exactly parallel to each other, so that the jets may not diverge much. The instrument is now ready. Place a vessel of water on a shelf and insert the open end of the tube in the water in the form of a syphon. Place the lips on the jet end and exhaust the air. The water will immediately commence running, and will form a fine, soft, pleasant and refreshing fountain if directed against the closed eyes. The force of the jet may be perfectly controlled by lowering or raising the jet; if nearly as high as the vessel, the water will flow feebly, but if brought several feet below, it will spout up quite briskly. In ordinary cases the water should not be very cold—the temperature of about 60 deg. Fah. does well, but this may be varied from at pleasure, according to the agreeable sensation produced. The showering, if not too cold, may be continued from five to ten minutes at a time. A permanent syphon form may be given to the upper end of the Indian rubber tube by bending a piece of stiff wire, about a foot long, in the form of an inverted ∩, and then cording the tube to this wire.



Instrument for Showering Weak Eyes, &c.


Iron wire corded to the India rubber tube to form a syphon.

A LARGE FARM.

C. D. Bragdon, Corresponding Editor of the Rural New-Yorker, gives a detailed account of his visit to the celebrated farm of M. L. Sullivant, Champaign Co., Ill., which he is bringing into cultivation, having personally occupied it two years. This farm is seven miles long and five and a half wide; it contains twenty-two thousand acres. In May last, eleven thousand acres of this farm had been inclosed, and subdivided into fields of a section or two, more or less, each. He had a large force building fence, and a month later he expected to have twenty thousand acres inclosed with board fence. He depends mainly on raising corn and feeding cattle for profit; and has at the present time over five thousand head of cattle. Of the eleven thousand acres above mentioned, eighteen hundred were devoted to corn, three hundred to winter wheat, forty to oats, and fifteen hundred to meadow. The rest are in pasture. Twenty-two thousand bushels of corn were sold at forty-two cents per bushel this spring, amounting to over nine thousand dollars; and five hundred tons of timothy hay brought five thousand dollars. There are also four thousand worn-down Government horses pasturing and recruiting on this farm. Seventy-five span of horses, seventy-five yoke of oxen, and some mules, are used for working it.

Each department of this great farm is under the charge of an able farmer. A blacksmith shop repairs all the iron parts of the implements, machines, and tools; a carpenter shop is constantly occupied with the wood-work; a cook feeds the army of hands, and the great dining-hall is under perfect systematic management; the gardener raises tons of vegetables for the men; the forty plows are under the charge of a man constantly in the saddle, to see that each plowman has his allotted work, and every thing is in running order; and the whole is under the charge of a general superintendent, who reports daily to the proprietor. Accounts are kept of every thing, and at the end of the year it is known with perfect accuracy, what every bushel of corn has cost, how much labor every animal has done, and in what direction the greatest profits are made.

CANNING FRUIT.

Eds. Co. Gent.—The subject of canning fruits is now in order, the season not having quite passed by. Different writers in your paper have furnished some valuable information for the benefit of the public. Although canned fruits cannot be cansidered as a substitute for dried fruits, nor in many respects equally important, yet they have become a necessity, and every accomplished housekeeper will endeavor to lay by a supply to keep up with the wants of the times. With some this business is still an experiment, and many a housewife when preparing to can her fruit is not quite as sure she will succeed with her fruit as with her oven full of bread, although the process is no more intricate, and requires no more skill.

There are certain conditions to be complied with, and if they are observed, success is reasonably certain. All agree that the fruit should be sound and fresh It must be thoroughly heated or boiled, and in many cases thoroughly cooked—that is, cook it for canning about as much as you would the same fruit for the table. All fruits are subject to spontaneous fermentation—that is, they contain fermentative substance, which will surely produce fermentation under favorable circumstances. In canning fruit the first object is to destroy this tendency; heat destroys it. The boiling point is sufficient to destroy all germs of yeast, and other like substances, and generally to destroy all the germs of vegetable and animal life which appear in such vast numbers in all decaying or fermenting substances. Hence the necessity for a thorough heating or cooking of the fruit.

After having destroyed these germs of life and fermentation in the fruit, the next object is to prevent the introduction of new germs into the cans. This is to be done by sealing them up immediately and thoroughly air tight. Tin, glass, and earthen or stone cans are used. Earthen and stone jars are so porous that the air passes through them and introduces those very germs which we have taken so much pains to destroy; then the contents will gradually become infested, and in most instances a fermentation or decay will gradually take place. Even the glazing is usually too imperfect to be reliable. Glass is so easily broken that economy would discourage its use; and when the glass jars are closed with cork and sealing wax, in many cases these substances will transmit air enough with germs of vegetable and animal life to injure the fruit. When glass jars are used they should have tin, or some other metal, covers fitting closely. Tin cans are the most economical and effective; the covers should fit close; then they may be sealed with wax or sodered. The cover should be punched, the aperture being small, which may be left open a little while after sealing until the wax hardens The sealing wax should be composed of substances that will harden at the boiling point of the fruit, and not crack in cooling. It should, when used, be hot enough to flow freely. I usually procure it of some reliable druggist, tell him what I want, and get him to prepare it. I think rosin and gum shellac are both used; perhaps some other substances. Beeswax, tallow, or any other substance which will melt at a lower temperature than the boiling point, will not do; the sealing-wax must be thoroughly hardened before the cans have cooled much, and as soon as the wax hardens seal up the aperture in the cover. As soon as the cans are cool, examine them carefully by turning them in every position, to see that none of them leak; then place them in a cool, dry cellar. All of them will keep, if desired, through the next summer.

In heating or cooking fruit for canning, use about the same amount of sugar you would in cooking the same fruit for the table. It will assist in keeping the fruit fresh. It costs but little to have fresh cooked fruit almost every day from the time it fails in the autumn until it appears again in early summer. And when the conditions above described are observed, there is but little chance of failure. That the boiling destroys the fermentative principle in fruits is well understood by those who boil cider and bung it up closely while hot or warm. In that case no spontaneous fermentation will take place. Brewers introduce yeast to ferment their liquors after the fermentative substance has been destroyed by heat. The process of fermentation in bread is entirely arrested, and the yeast is destroyed by the heat in baking

To insure success then in canning fruit, nothing is required but a thorough heating of the fruit before and at the time it is put into the can, and a thorough exclusion of the cold air at all times afterwards.

Indianapolis, Ind. *.

Successful Mode of Canning Green Corn and Tomatoes.

Cut the corn from the cob when it is in nice order for roasting ears, and put it on and cook it three-quarters of an hour over a good fire, or until it is done. Then have your tomatoes pared and put in two equal measures of them, with one of the corn, and bring them all to a hard boil, or as hot as fruits are usually made when put up air tight. Put in salt enough for the taste, and stir it through. This appears to help keep it good; then can, as you would anything else, and my experience for it, you will have nice *corn and tomatoes* in the coming winter. I have tried it two years with uniform success.

Now I wish to inquire if any subscriber to the Co. Gent. ever succeed in canning green corn so as to keep it good? If so, please inform us through this paper soon.

Iron Furnaces, Ohio, Aug. 9. A. L. WOOD.

How to Clean Seed-Wheat.

I saw in the Co. Gent, an article from a Western farmer, describing his wheat, some which he said was smutty. Now I know, from long experience, that by washing the seed in brine as strong as it can be made, will prevent smut; it will also enable the farmer to skim out light wheat, chess, and almost anything else that may be in the seed, the strong brine bringing it to the surface much better than mere water. The wheat should, while in the brine, be stirred as long as any foul seed or light wheat rises; one bushel at once in a barrel is sufficient with plenty of brine; then dip brine and wheat into a basket. When drained a few minutes, empty on a clean floor; take the same brine for another batch, and so on until you have as much as you wish to sow that day; then sift on good slacked lime gradually, while another person follows around the heap and stirs it with a shovel; put on lime until the wheat will not stick together; then let it be sown and immediately covered; the lime will then continue to stick to the wheat, and be a good manure.

West Plattsburgh. JOHN T. ADDOMS.

The Lawton Blackberry Winter Killing.

The Lawton Blackberry is subject to being winter killed in many localities. I have heard complaints in portions of New-York, New-Jersey, Connecticut, and Massachusetts, many having given up the cultivation. I dug up mine two years since, they having been killed to the ground for a succession of winters. I have been induced to plant again this year from the success of Mr. Wm. D. Hall of Hamden, Ct. Mr. Hall is a successful fruit grower and a careful observer. His plan is to keep down all shoots that start until after the first of July. The canes that start early and get thoroughly ripened are the ones that are killed; but the shoots that start late prove hardy. This, I am aware, is against theory, but am satisfied is the true plan in case of the blackberry. I noticed in several plantations the past spring, that the largest shoots that started early were invariably killed, while the small ones that started late proved hardy. I hope those that have given up the cultivation of this noble fruit, will try this plan, and am satisfied they will not be sorry.

North Haven, Conn., L. BASSETT.

HOP AND POTATO YEAST.

Messrs. Editors—In reply to Constant Reader's inquiry of how to make good Hop Yeast, I copy the following directions from the Boston Cultivator, to make "Cake Yeast:"

"Scald some flour with strong hop tea; when cool enough to bear your finger in it, set it to rise with good lively yeast; set at noon it ought to be light enough in the morning; stir in as much Indian meal as is required to mould it into a lump; cut it into thin slices on a board or tea waiter, with a cloth spread over it, then set it in the wind to dry. It should be made in dry weather, or it may sour. Two-thirds of a teacupful will make a baking for an ordinary family. Soak 15 minutes."

My wife makes her hop yeast in the following manner:—Make a quart of very strong hop tea, and thicken it with Indian meal, thick enough to make griddle cakes; cool some of the hop tea before the meal is put in, and put in enough of the yeast cakes (which have been made at some previous time,) to make half a pint after it is soaked; then put the hop tea, after it is cool, and the yeast together, and let it rise till it is light; then stir in enough Indian meal to make it mould into lumps; then let it rise again till light, when it should be cut into cakes about one inch thick, and dried in the air. They should not be dried in the sun, or in a room where there is a fire, but in the shade, either in the house or out doors. The hop tea must be boiling hot when the first Indian meal meal is stirred in. A piece of this cake one and a half inches square, will raise a large loaf of bread, and if the yeast is good, the bread will need no saleratus or soda in it.

To make wheat bread with this yeast, soak a piece in water, and set a sponge with it the night before you wish to make the bread, and it will be light enough to mix up in the morning.

To make brown, or rye and Indian bread, with this yeast, soak about the same quantity of the cake, and put it in with the meal and water when the bread is mixed up.

My wife also makes a Potato Yeast, which she considers superior to any other kind of yeast she has ever used as it makes better bread, and is more convenient to use. It is made in the following manner:—Take ten potatoes of large size, pair, wash and boil them; when done mash them fine, and pour on them one quart of boiling water, and stir in one coffee cup of dry sugar. After standing a few minutes, pour on a *gill* less than a quart of boiling water; when it is lukewarm add one pint of the same kind of yeast if you have it, or of good hop yeast, to raise it. Put it in a stone jar and cover it up tight to ferment, and set it in a warm place till the potato rises on the top, and light foaming spots burst from the surface; then put the yeast in a stone jug and cork it tight. It will be necessary to tie the cork in and keep it tied, to prevent it being thrown out. After the yeast is put up it should be kept in a cool place; when wanted for use open the jug and stir up the yeast. One-half of a teacupfull of it will make a large loaf of bread. In warm weather the yeast is better to make only one-half the above quantity at a time, if but little is used. C. T. Alvord.

Wilmington, Vt., July, 1863.

Shade Trees on Country Roads.

The following act was passed at the last session of the Legislature of this State, and is consequently now in force:

AN ACT to authorize the making of sidewalks and planting shade trees along highways in this State, other than in cities and incorporated villages. Passed April 7, 1863.

The People of the State of New-York, represented in Senate and Assembly, do enact as follows: Section 1. All persons owning lands fronting upon any highway, (except in cities and incorporated villages) may make and have sidewalks along such land in the highway, and plant and have shade trees along the roadside of such sidewalks; such sidewalks with shade trees shall not extend more than six feet in width from the outward line of such highway; provided such highway is not over three rods wide, with the right to add one additional foot in width to such sidewalk for every additional rod in width of said highway where such sidewalks may or shall be built or shade trees planted, and for the protection of such walks or trees, may also construct a railing upon the road side adjacent, and within two and a half feet of such trees or walks, of not more than one bar in height with posts, and also protectives at the ends, in such way or manner as not to prevent foot passengers from using such walks, but so built as may and shall prevent cattle from going thereon.

Sec. 2. This act shall take effect immediately.

ALL HAIL THE TRIUMPH THAT
FICKARDT'S CATTLE POWDER
HATH ACHIEVED!

THOUSANDS ARE TESTIFYING TO ITS EFFICACY.

" *The Merciful Man is Kind to his Beast.*"

After years of study and experiment by the inventor, to compound from pure Vegetable materials a Powder that should and must take the place of the thousand and one nostrums gotten up and palmed upon the public as "certain remedies" for the cure of al diseases which the brute creation are "heir to," he has produced the one heading this advertisement, and none can be genuine unless bearing our fac simile signature. The demand has been such that its sale has been chiefly confined to the State of Pennsylvania, but we have now consummated such arrangements that we are prepared to supply the numerous orders now on hand, as well as those we may hereafter receive from other States of the Union.

Knowing this powder to possess all the curative properties here set forth, we deem a fulsome tirade of words unnecessary, feeling assured that its own merits will secure for it a ready sale. Being composed of pure vegetable ingredients, it can be safely and judiciously given to that noble animal the HORSE. Its effects are no false pampering of the system, creating a bloated carcass with a premature shedding of the hair; but on the other hand, it strengthens the digestion, purifies the blood, regulates the urinary organs, thereby improving and protecting the whole physical condition of the animal even when in an apparently healthy state.

To the Agriculturist and Dairyman it is an invaluable remedy for their Neat Cattle laboring under HOOF diseases, HOLLOW HORN, and other of the many complaints to which they are liable from a suppression of the natural secretions.

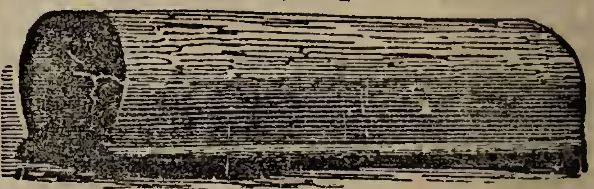
MILCH COWS are much benefitted by occasionally mixing with their slop or feed—it has a tendency to strengthen the animal, remove all obstructions from the milk tubes, promote all the secretions, and consequently adding much to the strength of the animal, quantity and quality of the Milk, Cream and Butter.

HOGS, during the warm seasons, are constantly overheating themselves, which results in their getting Coughs, Ulcers of the LUNGS and other parts, which naturally has a tendency to retard their growth. In all such cases a tablespoonful mixed in a bucket of swill and given every other day will speedily remove all difficulties, and the animal will soon increase in Health and Fat.

☞ For sale by all Druggists and Dealers. Price, 25 cents per package.

AGENTS.—Lane & Paine, 18 Buffalo-Street, Rochester, N. Y.; D. S. Barnes & Co., 202 Broadway, New York; and Dyott & Co., No. 232 North Second-Street, Philadelphia. July 2—w&m6mos.

NEW-YORK STATE TILE WORKS,
NEAR THE CORNER OF
LARK & LYDIUS-STREETS, ALBANY, N. Y.,
WM. M. BENDER, Proprietor.
GEO. JACKSON, Superintendent.



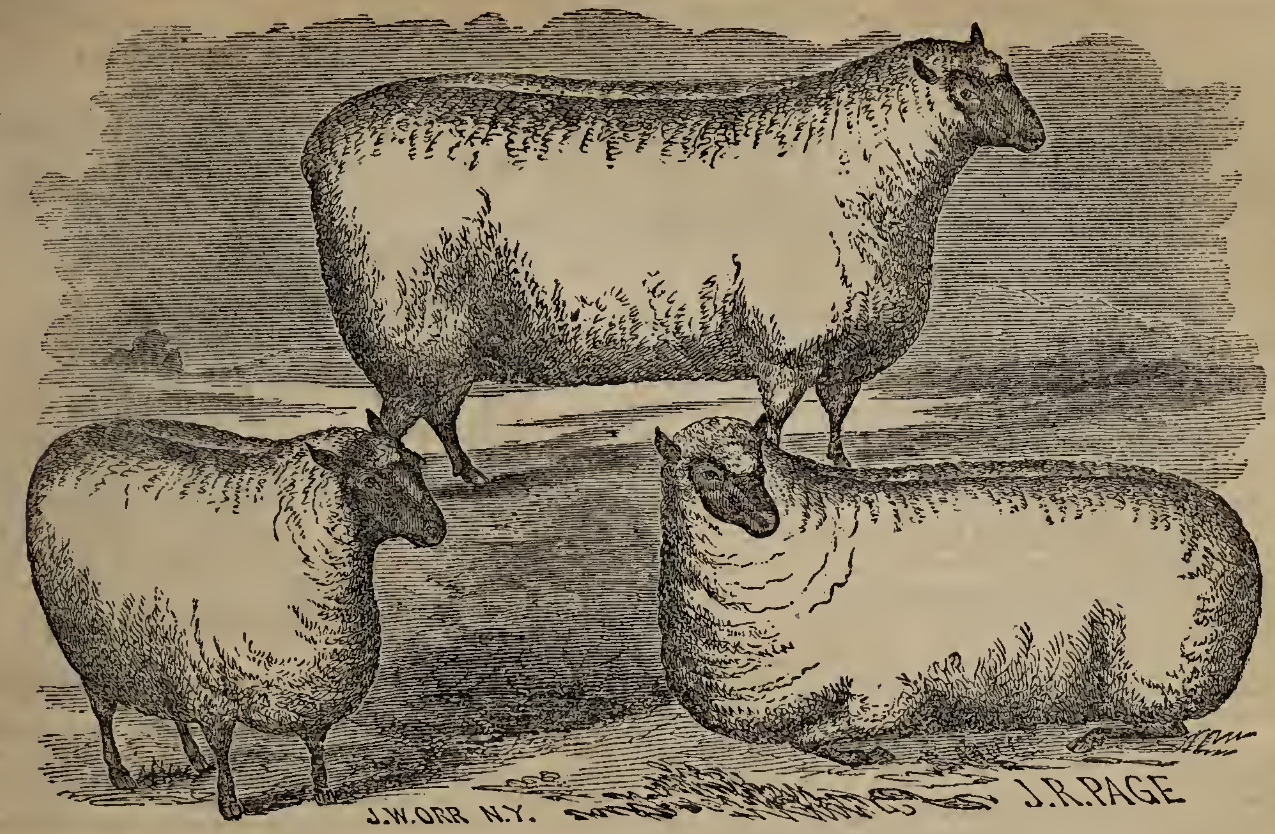
The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same.

Also DRAINING TILE MACHINES for sale of the latest imprvoed Patterns. For further particulars address as above. Ap. 9—w&m.

RIGHTS FOR SCHOOLEY'S PRESERVATORY, (in New-York and Pennsylvania,) for sale by J. L. ALBERGER, Buffalo, N. Y. Send for pamphlet. Nov. 3—wtf.



J. C. TAYLOR, HOLMDEL, N. J.,

BREEDER OF WEBB SOUTH DOWN SHEEP,

Would say to the readers of the Country Gentleman and Cultivator, after 15 years experience, that no sheep for MUTTON, WOOL, EASY KEEPING, AND AS A CROSS EITHER TO PRODUCE WETHERS, OR EARLY FAT LAMBS FOR THE BUTCHER, can equal the South-Down, and that no South-Downs have reached the perfection of the Webb South-Down. Having made it my constant aim to stand ahead of all other breeders for nine years past, and purchased of Mr. Webb, late of Babraham, England, his very choicest stock animals, by much effort and fabulous prices, I now claim to have a flock that has no superior in England or America, and now offer RAMS, EWES, RAM LAMBS and EWE LAMBS for sale at prices, according to quality and age, from $22 to $150 each.

Wishing to show my flock to all, persons leaving New-York or Philadelphia at 6 A. M. on Camden and Amboy Railroad for Freehold, can reach my place at 11 A. M., examine my sheep 2½ hours, and return to either city the same evening. Aug. 27—w&m1t,

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STRAWBERRIES AND BULBOUS FLOWERS.

New Catalogue of 200 splendid varieties of Strawberries, including all new ones, mostly described in last Patent Office Report, and Catalogue of Bulbs and Pæonies, &c., sent to applicants enclosing stamps. Strawberries and Bulbs sent from August to November.

July 30—w2tm1t. PRINCE & CO., Flushing, N. Y.

FOR SALE.—The celebrated ALBANY NURSERY,

the property of the late JAMES WILSON.

This well known Floral Garden, embracing 5 or 6 acres of ground, with dwelling house, conservatory, gardener's house, extensive outbuildings, hot-beds, shrubbery, stock of forest trees, evergreens &c. is offered for sale on the most reasonable terms.

It is situated on the south side of Lydius-Street, opposite Knox, a most eligible location. It has been brought to its perfection at much labor and expense. For particulars enquire of

HOFFMAN & ROWLAND, Real Estate Brokers,
July 30—w2tm2t. No. 55 State-Street, Albany, N. Y.

PREMIUM CHESTER COUNTY WHITES.—

THOMAS WOOD

Penningtonville, Chester Co., Pa.,

Continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. April 16—w&m1y.

TO CHEESE MAKERS !

RALPH'S PATENT IMPROVED "ONEIDA CHEESE VAT,"

Was awarded the FIRST PREMIUM by competent judges, after a thorough test of merit, at the New-York State Fair 1862. It is the most simple, durable and effective cheese making apparatus in use. Is used in dairies of 10 to 1,000 cows. The only vat well adapted to "factory" cheese-making. More economical in use than steam, and much less expensive in cost.

We have on hand, ready for delivery, all sizes, varying from 84 to 355 gallons, and make to order larger sizes for factory use.

Circulars containing description, size and price list, and directions or using, sent on application to

WILLIAM RALPH, }
JOHN CARTON. }
WM. RALPH & Co.,
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Manufacturers and dealers—wholesale and retail—in Dairyman s Tools and Implements. Feb. 12—w&mtf.

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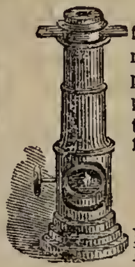

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Aug. 27—wtf.

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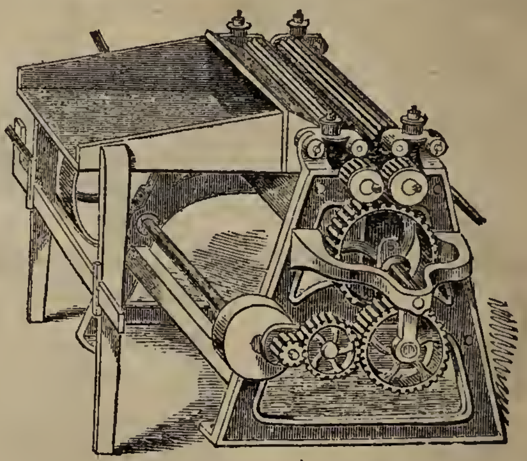

MALTA, SARATOGA CO., N. Y., Aug. 10, 1863.

MESSRS. MALLORY & SANFORD:

Gentlemen—On the 19th day of March we drew to the mill of N. G. Akin, thirty-nine hundred and thirty (3930) pounds of flax straw, which he dressed through the old Brake, and we received four hundred and eighty-one (481) pounds dressed flax

We about the first of June, drew to the mill of Wm. H. Buckley forty-four hundred and ten (4410) pounds of flax straw, which was dressed through one of your Patent Flax Brakes; we received eight hundred and five (805) pounds of dressed flax.

The flax was grown on the same piece of land, and there was no perceptible difference in the quality of the flax, except that the portion drawn to Akin's mill was rotted in the fall of 1862, and that drawn to Mr. Buckley's mill was spring rotted, which is considered not so good, from the fact that it loses part of the oily matter from the fibre, and does not yield as much per ton of straw as the fall rotted.

You will perceive by the above statement that we received from Mr. Akin's mill 245 pounds nearly of dressed flax per ton of straw, and from Mr. Buckley's mill 365 pounds of dressed flax per ton, which makes a difference of 120 pounds per ton in favor of your Brake.

We are recommending our neighbors to take their flax to one of your Brakes to have it dressed, although it is 15 miles to the nearest one at present.

J. B. WEEKS.
L. L. WEEKS.

I certify that the above statement is correct, as I saw the weighers' receipts for both lots of straw, and weighed the dressed flax myself that was dressed at my mill. The flax dressed at Mr. Akin's mill is correct, no doubt, as the above gentlemen are perfectly reliable.

Aug, 27—weow2tm3t. WM. H. BUCKLEY.

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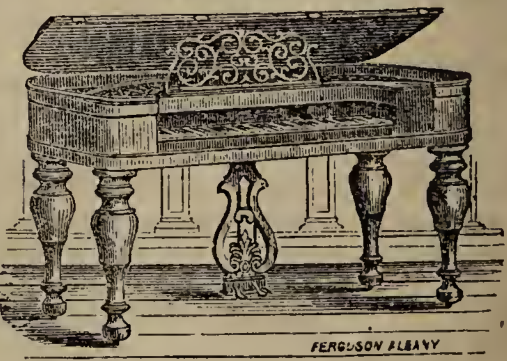

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VOL. XI. ALBANY, N. Y., OCTOBER, 1863. No. 10.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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The Cultivator & Country Gentleman.

SUGGESTIONS FOR THE SEASON.

Now that the labors of harvesting have closed, a sort of new era opens to the farmer in the form of labors for the autumn. A considerable portion of the labors of the farm consists in variously preparing for another season. Manure that has been already manufactured is to be spread for winter grain; and the absorbing materials for new piles of manure are to be collected and accumulated.

Manure in the form of compost, consisting of a mixture either with a copious amount of straw, well rotted down, or with layers of loam, turf or peat, should by all means be applied early in autumn; and the best application is either as top-dressing to grass lands, especially meadows, or to new wheatfields, after the last plowing has been done. There are several advantages of top-dressing meadows early in autumn. It assists in retaining the moisture of the soil which otherwise might become quite dry, and pinch the growth of the grass; it furnishes nutriment to the plants just after the half dormant season of midsummer, and they spring up with great freshness and vigor through the manure, and manure and grass together form an excellent and dense protection to the roots of the plants for winter. Partial failure often occurs in top-dressing by the careless and imperfect manner in which the work is done—it is scattered unevenly and in lumps; while a portion of the grass is unsupplied, other portions are too heavily covered or smothered. The same amount of manure spread evenly over the whole surface would be of triple value; and it may therefore be of great importance to employ a hand to pass, by regular strips, over the field, and break and scatter all lumps left by the first spreading. Much of the facility of spreading depends on the mechanical condition of the manure at the time, the character of the component parts previously used, the degree of moisture, &c. If quite wet when spread, it will be hard to avoid some lumps; in a few days, when these become dry, they may be broken or crushed with a roller and spread by passing a fine harrow over the ground.

We have on former occasions spoken of the advantages of top-dressing wheat about the time of sowing. There is no question that in most cases this is the best way of manuring the crop at the North. The only exception perhaps, is where the soil is already quite rich, and where it may promote too luxuriant a growth of straw. Its advantages are, enriching the surface near which most of the wheat roots remain; preserving the moisture of the soil at a time when it is frequently affected by drouth; giving a vigorous start to the young plants, and preventing their destruction by winter killing. We have known, in an extreme case, a moderate top-dressing of manure to part of a field of Mediterranean wheat, to give a yield of twenty-five bushels per acre, where the rest of the field which was unmanured, was so nearly destroyed as not to be worth cutting. Several good farmers, who have long practiced this mode, have found it usually to increase the crop about eight bushels per acre. Another, and by no means the least advantage, is the assistance it gives to the young clover plants, as well as insuring their germination —making a difference in extreme cases equal to doubling the amount of seed.

In preparing manure for another year, an abundant supply of absorbents is inportant. These must vary with circumstances; where straw is abundant it answers a good purpose if time can be allowed for it to become well rotted down. The facility with which it may be used for litter, and being always easily spread in cold weather, it is most conveniently used. Turf answers a good purpose, but cannot be well employed when frozen hard. The same remark will apply to muck or peat, unless it has been well dried. In fact peat is of comparatively little value when used wet. It will hold, like a sponge, about nine-tenths of its weight of water; and hence, when saturated, cannot absorb the liquid parts of the manure. Every care should therefore be taken to have it well dried. It should be dug out of the swamps, if practicable, in summer, or early in autumn, and the present season is therefore the time to secure a large supply. A mistake is often made in throwing it in piles on the ground, where it sucks up, like a sponge, the water from the soil beneath. It should, therefore, be thrown on a platform made of poles, brush, slabs, or plank, and if the heaps cannot be covered with boards or thatch, they should be beaten smooth with a spade, so as to throw off the rains. This may appear to some to be much unnecessary labor, but it will amply repay all the trouble, and increase many times the value of the material used.

Farmers who have manure on hand too coarse to be well applied in it its present state, should immediately form compost heaps. This may be done, in many cases, in or near the fields where it is wanted, and thus save the labor of drawing a part of the materials into the barnyard and then back again to the fields. Fence-corner turf, and the washings of ditches and fields, form an excellent material. The latter may be found abundantly the present year after so many heavy rains, and compost heaps may be made near any large deposit. Such washings being entirely free from stones and easily shoveled, besides containing considerable rich matter, are well adapted for this purpose. The thinner are the alternating layers of manure and earth, as the heaps are built up, the more perfect and thoroughly mixed will be the compost.

Weeds.—We lately observed one of our best farmers going through his splendid crop of corn and clearing out all the remaining weeds, which had escaped his earlier cultivation. As every plant would have soon ripened its five hundred or a thousand seeds, and greatly increased the labor of eradication another season, the economy of this operation may be well conceived. Immediately preceding or soon after a rain, it is advisable to harrow all stubble ground that has not been seeded down, or which may be intended for plowing. The weeds will soon start and form a green manuring crop which will enrich the soil when turned under. The pulverization of the surface by the harrowing, also improves the surface and renders the subsequent plowing more perfect. Crops of turnips, beets, and carrots, are yet to make their best growth; they should, therefore, be kept constantly cultivated. Nothing can have a worse appearance than to see numerous weeds thrusting themselves above the rows of these crops. No farmer can admire the taste which induces some landowners to allow their fences to become ornamented with elder bushes, briers, nettles, horse-thistles, burdocks, mulleins, &c., and wherever these exist, the present occasion should be seized for their utter extirpation. Briers, if cut low during the present month, are much checked in vigor, if not killed; but it may be best to remove such fences as are not line fences a few yards, and plow up and cultivate the old line of weeds. To clear out the ox-eye daisy, plow it under deeply during the present month; dig up or otherwise destroy every plant which appears before winter; plant with corn another season, and keep it well and frequently cultivated and hoed clean. If a good manuring can be applied, follow with another well cultivated corn crop, and seed down with a grain crop, sowing the clover seed heavily. The few remaining plants after this treatment, may be eradicated by hand, or by a repetition of the same course.

Other work for the season will consist in thrashing grain, always securing the straw well, both for litter and feed; commencing the fattening of animals; repairing fences, gates, and buildings; selecting the best and perfectly clean seed wheat; under-draining portions of land too wet to drain in spring; drawing off stone and building stone walls; clearing meadows of all kinds of obstructions to the mowing machine, such as stones, rocks, bushes and stumps; and carefully housing all kinds of farm tools, first cleaning them of dirt and brushing them up, and seeing there is a place for every one, and every one in its place.

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A debating club lately discussed the important question, "Whether a rooster's knowledge of daybreak is the result of observation or instinct."

MANAGEMENT OF THE STRAWBERRY.

The interest that has been manifested of late years in the cultivation of this fruit, appears to be by no means diminishing. There are several reasons for the existence of this interest. First, the strawberry is the earliest of all hardy fruits; secondly, it may be increased and raised with great facility; thirdly, only a few weeks are required from the time of planting to the ripening of the first moderate crop, and only a year to an abundant supply; fourthly, new varieties are obtained with remarkable facility, the seed of every pistillate sort being a cross from some staminate, and only needing to be planted to produce new crosses. Added to all these, the delicious quality of the fruit, it is no wonder that every one who owns a rod of ground, should wish to try his hand at its cultivation.

Cultivating in "hills," as it is termed, is much better than allowing the plants to run broadcast, in all cases where injury results from drouth—the whole surface covered with plants, carrying off the moisture several times more rapidly than the few plants forming the hills. Every one has doubtless observed how much sooner the berries dwindle and dry up in the matted bed, or the thickly growing belt.

Transplanting Strawberries.

The best season, or at least that requiring the smallest amount of labor, is in spring. Every plant is sure to live, and may be set out as quickly as a cabbage plant. There are some advantages, however, in summer planting—the newly rooted runners may be taken, and if the work is well done, the beds will bear about as well the next season as spring-set beds. To insure their rapid growth, and secure them firmly in the soil before winter, the roots should be evenly spread on all sides. The best way is to make a shallow hole, about half a foot in diameter, and then with the hand place a small mound of earth in its centre, rounding the top of this mound with the palm of the hand. Next take the plant, and if the roots are long, cut them off within two or three inches of the crown; then spread them out like the arms of an umbrella, so as to cap this mound with the plant on its top; then draw the earth over the roots and press it down firmly, and the planting is completed. A few seconds only will be required for each plant to the practiced hand. It will generally be best to clip off all the larger and older leaves, leaving the younger and fresher for a vigorous start. Settle the earth by watering, and then cover the surface with an inch of fine manure, which will keep the soil moist. Treated in this way, every well set plant will be sure to grow.

Innumerable varieties are coming rapidly into existence; and of those that are lauded as being superior to any of the old sorts, perhaps one in a hundred will ultimately be found equal to them. All new sorts are apt to please best at first, because the planters, having paid a high price for them, give them excellent care until they become cheaper and more common, when they are neglected, grow to a small size only, and are cast out and discarded.

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Guano.—An important survey of guano deposits on the coast of Peru has been concluded, and the stocks wer estimated at 1,500,000 tons on the Macabi islands, 2,500 000 tons on the Guanape group, (opposite the point St. Helena,) and 4,000,000 tons on the Lobas Island, re resenting a total value of $230,000,000.

PRUNING THE RASPBERRY.

Editors Co. Gent.—Are the Hudson River Antwerp Raspberries hardy enough to survive the winter without being laid down? When they have been laid down, will they resume their upright position upon being uncovered, or must they be tied up to stakes? The raspberry canes of this year's growth are six to seven feet long, and interfere considerably with their cultivation. Should they be topped, or will it be best to wait until spring before doing it? How late will it do to bud cherry trees? G. L.

New-Brunswick, N. J.

The Antwerp Raspberry is not entirely hardy in the Northern States, except in particular localities. It usually succeeds best when laid down with a slight covering of earth—a small mound of earth being placed at the root, over which the stems may be bent without breaking. The stems from two adjoining stools may be bent toward each other, and pegged down together, and the whole thus covered at one operation. On being uncovered in the spring, they slowly assume an upright position, but are best if staked. The present season's canes are usually cut off early the next spring, about four feet high. They may be cut back the present autumn, or about the time growth ceases, if they are covered; but as they are rendered somewhat tenderer by cutting, they should be left untouched till spring, if intended to stand exposed.

It rarely answers to bud cherries much later than the middle of summer, as they usually cease growing soon after that period. In rare instances the growth has continued much longer, and we have sometimes budded them successfully near the commencement of autumn.

STACKING CORN FODDER.

Eds. Co. Gent.—I notice in the Co. Gent. of Aug. 6th, a valuable article on the curing and stacking of corn-fodder. The mode of curing is similar to the one practiced here, but the stacking is different, and I will try to describe our mode. I think it has advantages which Mr. Allen's has not. I also think that those who practice Mr. Allen's plan if they try this, will think it preferable to the one referred to.

Instead of building a round stack we build a long rick as near the feeding yard as convenient, always leaving enough space around the rick to drive with a load of fodder.

To start the foundation of the rick, place a row of bundles perpendicularly with the butts firmly against the ground, and a row on each side, with the tops pressed closely against those of the first row, at an angle of about 60 degrees.

The foundation need not be made as long as the rick is wanted, before building up, as more can be added whenever it is needed or the stacker finds it convenient. Place the butts of the next row against the bands of the last. The tops will extend above the others, so as to cap those beneath, and prevent the water from entering and spoiling the fodder. Then commence again at the ground, and carry up a tier on each side, as before, which will now take three rows to reach the top. The last row of each tier should cap the rick. Every tier that is carried up will take one more row, than the one preceding it, to cap the rick. We put eight to twelve rows on each side, which makes sixteen to twenty-four through the rick at the base, and as high as it is convenient to pitch.

The stacker should walk on the bands of the bundles as he places them in position on the rick, excepting the rows on the ground. Although the sides seem steep he will not find it difficult to do so if the straw, of which the bands are made, is good.

Always build from one end. Then when wanted to feed, commence at the other, and take off as much as is needed. Don't take from the sides, but from the end, which will leave the rick as weather-proof as it was before.

By building in this way the farmer may suit his convenience in stacking, as he can add to the rick, either at the sides or end. Fodder put up in this way will keep fresh and nice all winter, providing it was in good order when stacked, and the top of the rick well closed. The bundles being placed at such an angle the water must enter at the top to do any damage. Two men with a team can haul and stack the fodder of 15 to 20 acres in a day. We generally put that quantity in a rick, and I have never seen any spoil by heating and moulding.

Farmers in this country never feed their cattle or sheep hay, but depend altogether on their fodder for coarse feed. Let all who have fodder stack it, and they will find it will go farther, and be nicer than that which is left in the field in piles to be dug out of the snow whenever they want it to feed. Their stock will thrive better, and relish the fodder better, and themselves rest better when the winter storm is raging. F. C. W. *Columbus, Ohio.*

SHEEP-MARKING, TICKS, &c.

In answer to "Lockport," I will give my experience in marking sheep, destroying ticks, &c. I first used turpentine, linseed-oil, and lamb-black, stamping my initials on each sheep; in a few weeks not a mark was legible. I next tried boiling tar, keeping it hot by placing the vessel containing it in a kettle of coals. This was legible until the fleece was removed. I tried Venetian red and linseed-oil, which soon became obliterated. Lastly I tried coal or gas tar, which makes a distinct and durable mark. Mark ewes on the side, wethers on the shoulder, and bucks on the rump. Sometimes stamp with my initials cut in a block of soft wood; also use a stamp cut in a circular form, making a ring; and when in a hurry use the large end of a corncob, making one, two or three spots near together. By marking sheep of different sexes on different parts of the body, it facilitates the assorting of a flock. Last spring, marked all of my breeding ewes with copper labels, bearing a number stamped upon the face, suspended from the ear by a wire ring; but several of them are now missing, having been torn loose.

I have purchased sheep having ticks on them, three or four times, and they soon spread throughout the flock. Always destroyed them after shearing. Generally used tobacco water. A pound of plug tobacco, torn to pieces and boiled for some time in a vessel of water, then diluted with about thirty gallons of water, I think would be sufficient for fifty lambs; and more, if the liquid was not wasted. Dip as soon after shearing as the ticks leave the ewes, as the lambs will be easiest to handle while small. Immerse the whole body except the nose and eyes. Press the liquid out of the fleece as much as possible. Too strong a solution will kill the sheep. I know a buck which cost $100, killed thereby. Last spring I saw several articles in different papers strongly recommending the use of sulphur. I purchased ten lbs. of flour sulphur, mixed it with about twice its bulk of salt, and gave the sheep liberally for several weeks—as much as two quarts per week to eighty sheep. Result—not a tick have I seen upon one of my sheep for two months, and have examined them frequently. My sheep are mostly Spanish Merinos; recently improved by crossing with a pure Atwood buck. Ticks appear to flourish upon the fattest of the flock. David Street.

Columbiana Co., Ohio.

To Prevent Posts Heaving by Frost.

Now that it is becoming so common to construct post-and-board, or post-and-rail fence, instead of the old and partially obselete worm fence, it becomes a matter of great importance that they be well and firmly made. Fig. 1. The most frequent cause of annoyance and failure is the upheaving of the posts by frost. On wet grounds some well made fences have thus been ruined in a few years. The posts are raised a foot or two by successive winters; the twisting thus occasioned distorts the fence and loosens the boards, and the whole is bent over and sometimes prostrated by winds. Fig. 2.

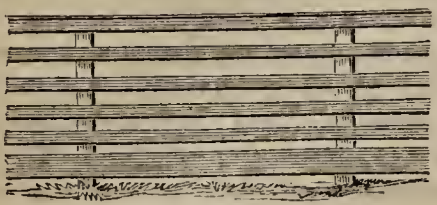


Fig. 1.

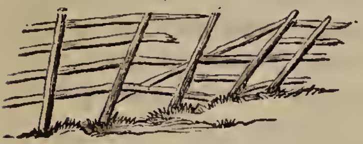


Fig. 2.

Various expedients are resorted to in preventing this evil. It occurs but slightly on dry ground; hence the practice of placing a tile drain under the line of the fence, and setting the posts as the ditch is filled, is found to answer an excellent purpose. Ramming gravel around the posts to allow the water to run quickly downwards, facilitates this object, and the posts, never becoming water soaked, will last twice as long as when frequently subjected to soaking and drying. Another, but less effectual mode, is to plow a furrow on each side, and bank up the earth on the line of the fence. Another method is to bore a two-inch auger hole through the post near the bottom and drive in a pin that will project two or three inches on each side. Stones are placed on the ends of this pin, and the earth firmly rammed into the hole over them. Fig. 3. The best and most effectual mode, however, where the land cannot be thoroughly drained, is to cut a notch on each side of the post near the bottom, and then place the points or edges of two flat stones into these notches. Fig. 4. The earth being firmly rammed down above them, holds the post immovably in its place. As there is no side strain to the post at the lower end, these notches may cut it half off without endangering its strength; and as the post does not rot so far beneath the surface, (but only near the top of the ground,) it never becomes weakened at this place. Fences which have stood several years, and become raised by the frost, are often lowered again to their orignal level by digging a hole down by the side of each post and under it, and then dropping the whole fence together. The fence may be secured in its place at this time, by cutting in notches at the lower end on one side, by means of a long-handled chisel and mallet, and inserting the stones before the hole is again filled. Fig. 5. This may be easily done, while boring and driving in a pin would be impracticable.

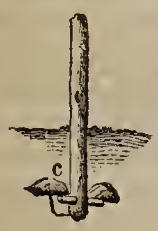


Fig. 3.

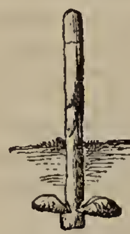


Fig. 4.

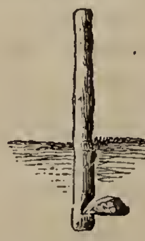


Fig. 5.

CLEANING CLOVER SEED.

Can you give me any information as to the necessary machinery for gathering and saving cloverseed, or can you direct me to any other source where I can procure reliable information on the subject? An answer through your journal will much oblige

Spring Station, Ky. M. B. W.

There are three stages of the process of raising cloverseed—namely, ripening the crop in the best manner; cutting and securing it; and thrashing and cleaning it. We are unable to give accurate directions as to the best time of growing the seed in Kentucky—but the same general rules adopted here will apply, if modified to suit the climate. The usual practice is to mow or pasture the crop early in the season, and take the second growth for the seed. As the ripening of the seeds considerably exhausts the plants, it is important that the early mowing be done before many of the first blossoms ripen; and for the same reason the practice of pasturing succeeds best, as the plants are kept down. The crop to be reserved for seed should commence growing early in summer, on or before the middle of June in the Northern States. Late in summer the whole surface will be a profusion of clover blossoms, and a month later the crop may be cut. The cutting should be done rather early than late, or by the time two-thirds of the blossoms have ripened—when the earlier heads will be full of seed, will shell out less, and the stalks will be useful for fodder. If deferred till later, there will be less seed and poorer fodder, and the crop will be more difficult to dry. It may be most easily cut with any combined mowing and reaping machine, with the platform on, and a board placed behind to keep the clover from falling off, until enough has accumulated for a heap, when it is thrown off with the rake; when dry enough it is drawn in the barn for threshing. When cut with a scythe by hand, two swaths should be thrown together to facilitate gathering.

The threshing is best performed by first running the whole crop through a common threshing machine and thrown on a shaking separator; the broken heads or seeds fall through; the straw and lighter stuff is cast off. By passing the seed again through the threshing machine the heads are broken finer, and in this condition it may be sown in the chaff by farmers who raise their own seed, although it cannot be so evenly spread as the pure seed, and must therefore be applied copiously. The removal of the chaff so as to fit the seed for market, must be done by a clover machine.

There are various kinds made by different manufacturers and sold at all the large implement stores in the cities—the price varying from $75 to $100. Wheeler, Melick & Co., and I. T. Grant & Son of Albany make excellent clover hullers. In some places the owners of the machines carry them about; in others stationary machines are kept, the farmers drawing the seed to them, which may be done in large boxes placed on their wagons, or in hay racks lined with boards.

◆

☞ The Agricultural Statistics for the township of Hempstead, Queens Co., collected by John Harold, Esq., show the following crops for last year:

	Acres.	Product.	Av. per Acre.
Hay,	6,901¾	8,696½ tons.	1⅛ tons.
Wheat,	1,423¼	25,805 bush.	18½ bush.
Oats,	1,837¾	44,108 do.	24 do.
Rye,	2,068	29,416 do.	14 1-5 do.
Barley,	10½	177 do.	17 do.
Buckwheat,	945¾	15,677 do.	16⅜ do.
Corn,	3,579⅓	132,478 do.	34⅓ do.
Potatoes,	1,333¾	118,253 do.	88 3-5 do.
Roots,	88	28,338 do.	321 do.

FARM MACHINERY.

Every year increases the necessity for substituting horse for hand labor. The superior cheapness of the former is shown by the simple estimate, that while the strength of an active man is only one-fifth that of a horse, the cost of the latter, as usually kept by farmers, is but a little more than one-third; in other words, a horse will accomplish any heavy labor that he can perform at about one-twelfth the cost of employing men to do the same. This estimate will, of course, vary with localities and circumstances, but is a fair, approximate average, and shows the importance of applying this cheap strength by means of farm machinery to every possible operation.

The present war has withdrawn from the farms of the North nearly a million of laborers. The inquiry occurs, what part of this loss is supplied by agricultural machines? We have no statistics to show the actual number of mowing machines, reapers, horse-rakes, horse-forks, thrashing machines, planting machines, &c., in present use. But it is not difficult to make an estimate of the advantages to be derived from their general introduction to all the farms of considerable size in the North. There are at least one million farmers in the Northern and Western States, whose tillage lands are sufficiently extensive to render their use eminently economical. The meadow lands of each of these farmers will average, say, twenty acres; to cut these acres by hand would cost twenty dollars, more or less, and only about ten dollars if performed by mowing machines, that is, a saving of ten dollars to each of these million farmers. This estimate does not take into account the impossibility of securing enough hands, at the critical period of haying, to perform all this labor at present wages. The advantages which the rapid execution of this work by machinery would give in the way of hastening its progress, in preventing over-ripening, or in escaping storms, would perhaps be as much more. In other words, twenty million dollars would be saved annually by the general introduction of mowing machines. Reapers would doubtless accomplish as much more; although they do not lessen the amount of hand labor actually employed so much as mowers, they prevent a greater loss, which would result if the crop were not gathered at precisely the right time. We may, therefore, put these down at twenty millions more. The various other improved machines and implements would probably, if all taken together, swell the amount to at least one hundred millions yearly. This vast amount would go far towards supplying the labor withdrawn by the war; and when we take into the account the fact that some of this machinery, and more especially the harvesters, supply a place and accomplish a service, at a critical period, which the million laborers could not do, it may be questioned whether the machinery, on the whole, is not the more important of the two.

This estimate may be corrected in its details—the object being to show the vast importance of every improvement in farm implements and machines, in a national point of view. English political economists predicted ruin in the Northern States by the withdrawal of farm laborers to carry on the war; the London Mark Lane Express annually publishes its stereotyped prediction, that no more wheat can come from America; and without machinery this prediction would doubtless prove true.

There are two individuals who hold prominent places among their countrymen—the inventor, and the political office-seeker and speech-maker. The latter makes himself prominent in the crowd, and often receives adulation at great assemblies and through daily newspapers. The former is found alone in his study or workshop, and excites no attention at the time, but like a Watt, an Arkwright, or a Fulton, to the commercial world; or a Hussey, or Ketchum, to the agricultural interest, their unostentatious productions have proved far more essential to the safety of the country, and saved it from desolation in the hour of peril.

Nothing has contributed more to disseminate correct information on the merits of machines than agricultural fairs, aided by agricultural periodicals. We trust that the officers having charge of these exhibitions will continue to give a prominent place to the machinery department, and to offer increased inducements to exhibitors; and that whenever practicable, these machines shall be seen in operation on the ground, or provision be made for their special trial.

SOWING CLOVER SEED.

My clover sowed last spring did not "catch" well. Will it do to let it remain as it is, and next spring to sow on more seed? Will it be to my interest to plaster it this fall or next spring, or both times? What kind or kinds of seed, and in what proportion, is it best to sow expressly for sheep pasture on dry land, and at what time of the year? Will some practical farmer give me his advice through this paper? Jas. McCollum. *Newfane, N. Y.*

Not knowing all the circumstances, we can only give conditional advice. If the ground is clean, the field might be well harrowed late this fall, and more clover seed sown in the spring; but if much infested with weeds or grass, it may be best to plow up the land as soon as convenient, and when it is re-seeded, do the work well by bringing the soil into the best condition, applying a light top-dressing of fine manure, and using plenty of seed. An objection to re-seeding next spring if the land is to be pasture, would be the injury which the young clover plants would receive by being trodden under foot. The small or "medium" clover is the best. Apply the plaster early in the spring. For sheep pasture, mix timothy with the clover seed.

CANNING GREEN CORN.

In answer to A. L. Wood, green corn may be cured in the following manner: Procure good tin cans made for this purpose; glass jars will not answer. Boil the corn on the cob 5 minutes; cut it from the cobs and fill the cans within half an inch of the top—add half a tumbler of the liquor that the corn was boiled in to each can; no other ingredient need be used. Solder up the cans tight, and put them in a boiler of water and boil 5 hours. Take them from the boiler and prick a hole in the cap of each can and let the gas pass out. Solder up the hole and boil one hour longer, when they may be set away in a cool place, and will keep any length of time.

Green corn is considered the most difficult thing to keep, and requires a longer time to boil to coagulate the gluten. If boiled in the cans in this way, it retains all its original flavor. I have practiced this method for several years, and have corn in perfect order put up in this way in 1857.

Tomatoes may be put up and boiled in this way 15 or 20 minutes, and need not be opened as in the case of the corn.

I first procured some information from a large fruit packing establishment. All fruit or vegetables must be in as fresh a state as possible for this purpose. L. Bassett.

North Haven, Conn., August 27, 1863.

Keeping Cattle, Horses and Sheep Together.

Messrs. Editors—The economy of keeping horses, cattle and sheep in a pasture together, or at the same barn, is perhaps not generally considered or understood by many farmers. There are at times, some disadvantages in keeping different kinds of stock together, but so far as the economy of feed is concerned, there is evidently a saving by so doing.

From experiments and investigations made on this subject, it has been accertained that domestic animals eat and reject plants in the following proportions:

The Cow	eats	276	plants,	and rejects	218	plants.
Goat	do.	449	do.	do.	126	do.
Sheep	do.	387	do.	do.	141	do.
Horse	do.	262	do.	do.	212	do.
Hog	do.	72	do.	do.	271	do.

Every farmer has noticed that many plants that are eaten by one kind of stock, are rejected by others; that cattle or sheep are averse to eat the grass that grows in those places where they lay nights, or in the shade of trees where they get together, in consequence of the unpleasant flavor given to it by their droppings—yet the horse will eat it readily. The horse will eat many coarse grasses and weeds which cattle and sheep will refuse. For this reason will be seen the economy of keeping horses, cattle, and sheep in the same pasture, in suitable numbers and proportions.

I have heard some farmers say that they did not think that it cost anything to keep a horse or colt in a pasture with cattle, as they would get their living on that which the cattle would not eat. For my own part, I do not think the saving is as much in the summer, when they can select their own feed, as in the winter, when they get only such as is given them.

It is generally thought that sheep and colts do well when kept together. Colts will eat the coarser portions of fodder which sheep leave, and do well on it. This fact was forcibly brought to my mind, while visiting the barns of a noted sheep-breeder, the spring of 1862. There were about fifty sheep, which were about equally divided and kept in two separate pens. The hay with which they had been fed was a mixture of red clover and timothy, and the sheep were literally up to their knees in the coarser portions of the hay which they had pulled from their racks on to the floor and rejected. This might not be entirely wasted, as it goes into the land with the manure; but if this waste hay had been consumed by colts, it would have been made into good manure, and the gain or growth on the colts saved. It was the opinion of both myself and the gentleman who was with me at the time, that a two-year old colt might have been well kept, in each of the pens, on the hay which the sheep wasted.

During the latter part of last winter, while feeding my coarse hay, the orts which my cattle and sheep left, were given to my horse. They were eaten up clean by the horse, who appeared to do as well as when fed on fresh hay, and many days but very little other hay was fed to the horse. A friend of mine who had a horse that was troubled with the heaves, kept it a part of the winter entirely on the hay that his other stock left. The horse did much bettter during this time than when fed on fresh hay—the catttle picking it over, removed the dust and lighter portions of it, which had the same effect as wetting it before feeding it to the horse. In cold and dry weather in the winter, when my barn-yard is covered with snow, I frequently take what is left by the cattle and sheep after feeding in the stables, and scatter it in the yard. The cattle will always clean up that which the sheep have left, and the sheep will eat a part of that left by the cattle, and the colts will pick up what is left by both cattle and sheep, so that between them all but very little fodder of any kind is wasted, but much is saved during the winter that would be wasted if only cattle or sheep were kept, or kept exclusively by themselves. C. T. Alvord.

Wilmington, Vt., Aug., 1862.

The Dairies of Orange County.

We take the following extract from the Survey of the Agriculture of Orange County, prepared by Hon. G. Denniston for the forthcoming volume of the Transactions of the N. Y. State Agricultural Society:—

No county in the State has a higher reputation for its butter, and probably no county produces more of the products of the dairy, or commands higher prices for those products. It may be said to be the principal business of the farming community. Since the opening of the New-York and Erie railroad through the county the business has been divided into *milk* and *butter* dairies. The milk sold in New-York city from the county, is deemed the richest and the best. These milk dairies are located along the line of the railroads, within a reasonable distance from the several depots. The milk is cooled and put in cans holding from fifty to sixty quarts, and carried to the depots in time for the "milk train" to the city, which runs daily from Port Jervis. These milk dairies are very profitable, yielding about $45 per cow, per annum.*

There are many *essential* things connected with the dairies of Orange county: farms naturally inclined to grass, an abundance of pure cold water, industry, perseverance, a close application to the business, and *experienced dairy maids.* These are not found, generally, out of the county, and account for the inferiority of the product elsewhere.

Among the Orange county dairies all are found to assist, the men, the women, the boys and the girls; they all join in milking and carrying the milk into the cellars; there the girls strain the milk, skim the cream, churn and work the butter, and pack it into tubs and firkins. The churning is generally performed by dog or horse power. The churns are large, generally barrel or two barrel churns, worked with a dasher, *none of your new-fangled things of small capacities, and smaller value, worked sitting down.* A churning produces a large pile of butter, and the packages are readily filled. We have known dairies of from 40 to 125 cows, and their products ranging from 80 to 250 firkins per annum. These dairies, when marketed, yield to their proprietors enough money to purchase a farm, and no class of her citizens are more thriving and independent than the dairymen of Orange. They are generally *before-handed,* and have money to loan, or to invest in real estate.

There is a method observed in the manufacture of Orange county butter. The cellar where the milk is kept is cool, well ventilated, clean. The milk is strained into pans containing from ten to twelve quarts each. When the weather is warm the pans are set on the cellar bottom, otherwise on shelves. The milk is left until it becomes "loppered;" then the milk and cream are churned together. Some dairy-women skim off the cream and part of the milk, and churn that, but the best butter is churned from *milk and cream.* The churn used is the common "dasher churn," driven by dog, horse, or hand power, according to the size of the dairy. The churn is filled half or two-thirds full with milk, and a pail of cold water added before starting to churn. In cold weather warm water is put in. The churning is performed with a slow, regular motion, and proceeds for an hour to an hour and a half, when the butter comes, and another pail of water is added. The butter is then taken out and washed through water in a large tray, and is then salted with about one ounce of pure Liverpool (Ashton) salt to each pound of butter. The salt is worked through the butter. It is then put in a cool place and left to stand an hour. It is then carefully worked over and set aside for five or six hours. It is worked again and set in a cool place until the next morning, when it is packed. In working the butter care is taken to work out all the milk, but not to work it too much, so as to break the grain and make it *salvey.* If the milk is left in, the butter will become rancid. If the grain is broken in working, it will be greasy or salvey. Butter worked just enough will be solid, sweet, yellow, and the drops of brine on it will be clear as crystal.

MARKETING FRUIT.

Dr. Holmes, alluding to the propensity of men to defraud in marketing fruit, thinks he should regard it as an evident proof that millennium was close at hand,

> When berries, whortle, rasp and straw,
> Grow bigger downward through the box.

We should be sorry to have to wait as long as Dr. Holmes has here indicated, for the cultivators of apples and pears to put up a creditable article for market, by rejecting all poor or injured specimens from the middle or bottom of their barrels. It is true that it has been too common for some of the owners of orchards to attempt to thrust off bruised and knurly specimens by concealing them from sight. Without taking into consideration the miserable pick-pocket feeling which such men must have when associating with honest people, it is the worst policy they could adopt even so far as mere money-making is concerned. For one detection of rascality stamps a man for the rest of his life, and he must of course expect to pay his share of the inspector's fees in future. We are glad to be able to state, however, that such management is rapidly becoming obsolete, and that intelligent fruit raisers take a pride in establishing a reputation for fair dealing and fine fruit. There is, probably, no business in which such a reputation will go farther and prove more advantageous. Consumers who understand the difference between good and bad fruit, are willing to pay a higher price for what they use, if they can be sure of receiving a good sound article, and be insured against imposition. It is not uncommon for those residing in cities who purchase apples for themselves, to secure a supply at an advanced cost, for the sake of having the best, when during abundant seasons they could purchase a common article in market at a low rate. As the whole community becomes better informed in relation to all our fine varieties, those who cultivate and market the best will reap the largest profits. The city dealers will learn that the best only will please their customers; and they will consequently establish a permanent list of such fruit raisers as uniformly give them the best varieties, picked, selected, and packed in the most perfect manner.

Hence every land owner who is about to plant extensive orchards, should set out only such as are of high quality, as well as of fine appearance.

But they must not fall into the common error of supposing that having planted an orchard they will have nothing more to do than to gather crops of dollars from their trees. In order to have good fruit they must raise healthy, thrifty, well pruned trees. The soil must be sufficiently cultivated, and, if necessary, kept manured. As soils vary exceedingly, the best rule is to observe the length of the shoots on the growing trees. In some localities, as in the rich regions of the west, the growth may be too rank and not sufficiently hardy to endure the winter if much manure is applied; in other regions there may be no danger of this kind. As a general rule the largest annual shoots of young trees should be from two to three feet long; on older bearing trees one foot to 18 inches. But good and intelligent orchardists will know enough of their business to settle these points without special instruction.

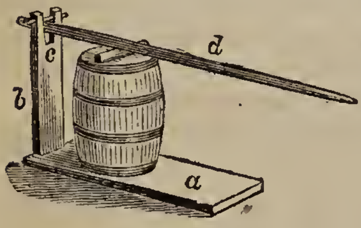
There is one requisite for success in market orcharding that is not sufficiently appreciated. This is thinning the fruit on the tree. Crowded branches, as well as crowded fruit on the branches, and puny, half flavored specimens go together. Some successful cultivators have found by recent experiment that the same number of bushels may be frequently grown on a tree after two-thirds of the fruit has been removed by thinning; these specimens being larger and more readily gathered; and what is still more important, they have often commanded more than double price per bushel. E. Moody of Lockport, sold his large crop of peaches from the thinned trees at $1.50 per basket, when those not thinned were disposed of with difficulty at 50 cents. Another advantage of this practice is preventing the injury to trees from overbearing. President Wilder states that one of the best cultivators of the pear in the vicinity of Boston, has adopted a system which allows no more useless wood, nor more fruit spurs, and no more fruit than the tree can properly sustain. As a consequence he produces every year superior fruit, which commands the highest price. He states that another cultivator, who raises an annual crop of the best apples, says that the secret of his success is the thinning of the fruit, and he has no doubt of the economy of the practice.

After raising good fruit, the next thing is to gather it without injury. It should be carefully hand picked. The mode figured and described in the Co. Gent. last autumn, (and figured again a few weeks since,) is an excellent method for apples and pears when they cannot be reached from the ground. If the specimens are not hard, a small number should be placed in the bag before emptying at a time. Hand baskets with hooks answer well, but they should be so small that they may be placed within the the barrels to be filled and turned for emptying—for it is obvious that the fruit will be ruined if poured into the barrel at the top. R. L. Pell of Ulster county, known to many of our readers as a successful orchardist, and for the high prices received in Europe for his superb Newtown Pippins, never allows his pickers to handle more than two apples at a time—they were thus taken, two at a time, from the baskets in which they were gathered; they were placed two by two in a heap before barreling; they were thus laid carefully into the barrel, and when transferred from wharf to vessel, and from vessel to wharf, the barrels were received on men's shoulders and handled as carefully as we commonly handle large looking glasses. Ten dollars a barrel was the common price for well selected fruit thus cautiously put up and conveyed to market, and in one instance by extreme care in selecting, $21 per barrel were received.

Where fruit is sold by the quantity, barrels are always best for packing, as well as for cheapness and strength as for the ease with which they may be moved without jolting. Apples will keep best if exposed in heaps two or three weeks to open air before barreling—as some of the exterior moisture escapes, and they become less liable to decay. The few minutes additional time required to deposit them carefully and without dropping them into the barrels, will be many times repaid by the fine condition in which the consumer finds them. There should always be at least two barrels placed side by side when filling; one should be marked "extra," and as the assorting proceeds should receive none but the finest specimens; the other only such as are decidedly good; all the rest, including those that are bruised, scabby or marked with insects, should be rejected for distant market, and used only for home purposes, such as stewing, converting into cider, or feeding to domestic animals. In well managed orchards, where pruning or thinning the branches, thinning the fruit, and proper cultivation have been attended to, this third or inferior portion will constitute but a very small part; in other orchards, grown up with suckers, weeds and grass, and with tops consisting of brush and stunted branches, the labor of selection will be small, for the whole crop will be of this third portion.

Apples should be so snugly placed in the barrels that there can be no rattling when they are moved. They should, therefore be slightly shaken several times while filling. A little practice will enable any one to do this sufficiently without danger of bruising. The upper stratum should be made as straight and uniform as practicable, and at such a height that the head of the barrel will slightly indent them—the dry wood absorbing the moisture and preventing decay.

A simple contrivance is adopted by packers for placing the head in position, and is shown in the annexed sketch. It consists of a plank, *a*, on which the barrel stands, into one end of which is dovetailed an upright piece of plank, *b*, a little higher than the top of the barrel. A slot, *c*, is cut in its upper end, and a pin runs across to receive the end of the lever, *d*, which may be 6 or 8 feet long. A round board is used as a follower, to be placed upon the head; and across this board is placed a cylindrical piece of wood about 3 inches in diameter, (and flat on the lower side,) on which the lever is placed. A moderate pressure at the end of the lever, and a little practice in its use, will enable the operator to bring the head to its position with great ease, precision and accuracy.



The vital principle, as is well known, keeps an apple cool while connected to the tree by its stalk, even if exposed to the full rays of the burning sun, but the moment it is picked it begins to assume the temperature of the surrounding atmosphere. Heat always hastens decay; a low temperature prolongs the sound condition of the fruit; hence the importance of placing apples, both before and after barreling, in a cool building, until their safety requires their removal to the cellar. An apartment opening to the north by means of large windows, or wide doors that may be readily closed on freezing nights, usually answers the purpose best.

These suggestions will be variously modified by every good cultivator or skillful marketer; they are intended mainly to urge the importance of raising the best fruit, cultivating it in the best manner, and packing it for market in the very best style—as being the most profitable as well as satisfactory way of doing this kind of business.

PLANTING STRAWBERRIES.

The exhibition of remarkable strawberries in different parts of the country, during the past season, and the attention given to the subject by the press will induce many to attempt the culture of this most excellent fuit, who have never before given it their attention, and the culture will be widely extended the coming season. The strawberry is easily and cheaply grown, and no family who has a spare rod of ground should be without a bed of the plants. It is frequently the case that the planting is recommended in the latter part of summer, or early fall. In a wet season, like the present, should it continue so, the plants may be set in the fall, but the spring is always the best. In the most favorable season when plants are set in the fall, they seldom get so firmly rooted that they are not liable to be drawn up by the frosts of winter, and materially injured before spring. In a dry season, such as usually prevails, at the time recommended for fall planting, the plants often fail to become well rooted, and are entirely lost; and under the most favorable circumstances but little will be gained by planting before spring. The ground after fall planting, becomes firmly packed before spring, and leaves it in a poor condition to favor the establishment of the plants, and the extension of the vines. Some fruit may be expected the season after fall planting, but the plants, generally, are so sparingly supplied with foliage that the fruit is generally filled with sand, if rains prevail during the period of ripening. It will require another season's growth of the plants to insure a crop of fruit, and this will hardly be better than if the planting had been deferred until spring. New and improved varieties are constantly appearing, and it may be desirable to procure them, and in order to do so it will be some times necessary to plant them in the fall, but under other circumstances it is not desirable to do so.

It is well to prepare the ground in the fall for spring planting, by deep spading, and if the soil is not rich, by manuring. A well rotted compost, free from the seeds of grass and weeds—such as may be made of leaf mould, muck, &c., is best. In private gardens or small plantations, it is best to grow the vines in hills by keeping the runners cut off. This method will give the largest fruit and the greatest yield, but to insure this the plants must be well cultivated and kept free from weeds, and the spaces between the plants in the growing and fruiting season should be well mulched with straw or some similar material. It is not necessary to procure a full supply of plants to fill the ground, at the time of planting, but the plants may be set three feet each way, and the runners directed, and the bed filled so as to have the plants stand twelve by eighteen inches apart. Or if not to be kept in hills the runners may be allowed to spread more fully, yet it is always best to direct them while rooting, in order to insure as equal a distribution of plants as possible over the ground.

No variety of strawberry succeeds equally well on all soils, and in all situations. A variety that produces abundant crops in one situation, will sometimes yield but poorly in others. But in almost every neighborhood varieties may be found that succeed well. The Wilson's Albany, for instance, very generally does well in most situations. In this respect it is somewhat remarkable. This, too, is a very deservedly popular sort, because it bears large crops of very handsome fruit, though not as sweet and well flavored as some others. Triomphe de Gand, though a foreign variety, is a favorite; also Austin's Seedling, Bartlett, Russell's Seedling, and others.

When the planting is deferred until spring, it should be done as soon as the plants begin to start into leaf, and the ground can be put in order. Then but few of the newly started roots are lost by the removal, and they secure the benefit of the early rains, and get well established, and send out strong and vigorous runners for the extension of new plants, and the whole will become well established during the season, and afford a full and remunerating crop the following season. The ground should, the first season, be kept light and mellow, and on no account be allowed to become choked with weeds. H.

☞ It is stated that Mr. Campbell of Vermont, sold his twelve prize sheep, exhibited at Hamburgh, for the sum of $5,000.

Sale of South-Downs at Thornedale.

The Thorndale Sale of South-Down Sheep took place Sept. 2d, as advertised, in the presence of a very large number of spectators and bidders, variously estimated at from three to five hundred. This may be said, at least, that the ring enclosed by a fence for the purpose, 50 feet in diameter, was closely packed all around, three or four deep, while many were constantly strolling about elsewhere. The list of purchasers will show a considerable attendance from a distance, including representatives from Ohio, Kentucky, New-Hampshire, Connecticut, Massachusetts and New-Jersey. Col. B. P. Johnson bid for Hon. E. Cornell, whose recent illness rendered him unable to be present; Sanford Howard of Boston, filled the orders of several purchasers in that State; William Brewster, manager to R. A. Alexander, Esq., bought for Mr. A. and another Kentucky gentleman, but, with these exceptions, the bidders were all present we believe in person. Geo. H. Brown, Esq., who was the largest purchaser, is laying the foundation for an excellent flock in Mr. Thorne's immediate neighborhood, and will have samples, we trust, at the State Fair next week, for exhibition. Among others present, were Hon. Wm. Kelly, and Wm. Chamberlain, Esq., of Dutchess, Geo. Vail, Esq., of Rensselaer, Col. Morris and Messrs. Faile and Bailey of Westchester, Mr. Sheldon of Geneva, Jona. Thorne and John Haven of New-York, J. C. Taylor of New-Jersey, Mr. Saxton of the Stock Journal, Mr. Comstock of the Argus, Mr. Cuming of the Observer, and a goodly list of prominent farmers in the immediate neighborhood, might be named, rendering the occasion equally pleasant as a gathering of agriculturists and breeders, and successful in a business point of view.

The arrangements of the Sale, for which Mr. Thorne assigns the credit to Thomas Galbraith, herdsman in charge, we have never seen surpassed, if equalled, for the promptness with which each lot on the Catalogue was in turn brought in for sale, as well as for perfection in other respects. Unfortunately detained by irregularity of trains, until about one-fourth the number were disposed of, we cannot tell at exactly what time the operations at the ring, which had been preceded by a substantial lunch for the company, in one of the out-buildings,—were commenced; but we reached the ground at about twenty minutes before three o'clock, and by four the whole list, numbering in all one hundred, had been disposed of, the thanks of the auctioneer returned, and the hundred or two of teams in waiting were preparing for departure. Thus the time consumed in the bidding off of each sheep may have been about *one minute and a quarter*—a degree of expedition which could not have been attained, as those who are in the habit of being present on such occasions, will admit from the *slow* experiences of the past, without all the machinery in the smoothest working order, a wide-awake auctioneer on the stand, and a wide-awake company of bidders around him.

Mr. Page, as auctioneer, is making himself a reputation which will render his services as indispensable to breeders on sale days, as they already are in the exercise of the pencil for sketches and portraits—both requiring a knowledge of the improved breeds, and the former an acquaintance in agricultural circles, in which most artists and auctioneers are deficient.

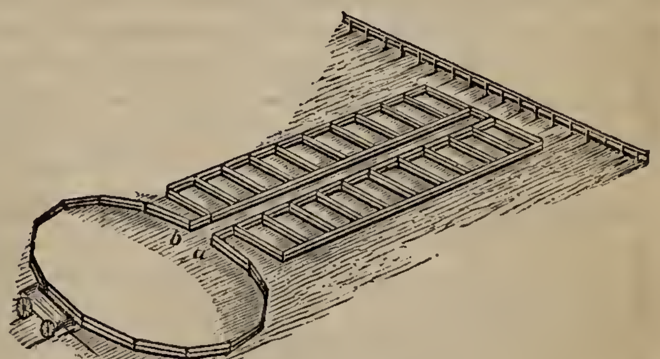
The Short-Horn Bull "Royal Oxford" by 2d Grand Duke—dam Lady of Oxford, by Duke of Gloster, was sold at private sale to R. A. Alexander, Esq., of Kentucky—price paid $2,000.

In regard to the prices at which the sheep were sold we present below a complete list, and may remark that although not extravagantly high, they compare very favorably with any sale of the kind we have any knowledge of in this country. The yearling ewes went low, partly because the lateness of the down train detained some who would have been buyers, and partly because the auctioneer was instructed not to dwell, and the buyers actually present had not learned that they must *speak quick* to get their bids in at all. At Mr. Taylor's sale at Holmdel just a year ago, the whole number sold and rented was 50, averaging about $38; total at Mr. Thorne's, 100, averaging about $46.

Thus the result speaks well for the interests of the breed, and shows that at no previous time have our farmers been more generally awake to the improvement of their sheep. When "Archbishop" came into the ring, it was pleasant to note the running fire of bids, which kept Mr. Page constantly on the alert—starting at $100 and mounting quickly by successive steps to $125—150—160—slight pause—175—200—250—260—265—275—280—300—Mr. Page tries to catch his breath, but 325—350—355—360—365 come along too quick, and there he hardly ventures a "once—*twice*," when 375–380—385—390—400—425—450—500 interrupt him, in less time than it takes to write the figures—and then "*three times*—GONE" seals the fate of the Canterbury primate to the meadows of "Millbrook." The rams that followed next were good bargains, all of them; No. 4 was low at $125, and when No. 9 made his bow to the company, the starting bid was $50, followed at once by $75, as if to bluff off competition, and then by $85 and $100, and still half a dozen undismayed competitors remained, who quickly ran him up to $131, the final notch.

As to the quality of the sheep, little need be said. The yearling ewes were rather late lambs, and hence were not as showy in size as would otherwise have been the case, but the two and three-shear ewes were generally admirable, and the rams certainly went below what their merits ought to have brought for them—the only advantage possessed by "Archbishop" over two or three of Mr. Thorne's own breeding, being apparently his *prestige* as a prize-winner in England.

As we have spoken so highly of the arrangements of the sale, it may be well, both to prove the justice of the compliment, and place the details before our readers for future imitation. We therefore give the accompanying sketch, from which it will be observed that twenty pens were provided on either side of an alley way leading to the ring, each pen containing four ewes, convenient for the examination of purchasers previous to the sale, and ranged along in catalogue order. The side of the pens toward the alley was a movable hurdle, and the ewes were passed into the ring with the utmost rapidity, and always in order. The entrance to the ring at *a b*, was so arranged



as to furnish also an exit for the sheep, as fast as sold, into the outer field. The rams were tied to stakes along a bit of temporary fence just beyond, each with his pedigree in full upon a card above. The auctioneer occupied his usual rostrum—a wagon at the opposite side of the ring.

Here follow the details of the sale, including pedigree, purchaser and price of each sheep:—

YEARLING EWES.

No.	Sire.	Dam's Sire.	Purchaser.	Price.
1.	Archbishop,	No. 6	P. U. Jones, Amherst, N.H.,	$25.00
2.	do.	No. 112	J. C. Tatum, Woodbury, N. J.	22.00
3.	do.	No. 6	Hon. E. Cornell, Ithaca,	20.00
4.	do.	Young Salisbury,	Geo. H. Brown, Millbrook, Wash. Hollow, Duchess County,	26.00
5.	do.	No. 6	Hon. E. Cornell, Ithaca,	21.00
6.	do,	No. 6	Hill & Jones, Delaware, Ohio,	37.00
7.	do.	No. 6	Geo. H. Brown,	41.00
8.	do.	No. 19	E. Cornell,	28.00
9.	do.	No. 6	Hill & Jones,	40.00
10.	do.	No. 112	R. A. Alexander, Woodford Co., Ky.,	41.00
11.	do.	No. 6	E. Cornell,	37.00
12.	do.	No. 6	Geo. H. Brown,	41.00
13.	do.	Young Salisbury,	J. S Homans, New-York,	31.00
14.	do.	No. 19	E. Cornell,	33.00
15.	do.	Young Salisbury,	J. C. Tatum,	30.00
16.	do.	Reserve,	Wm. Hurst, Albany,	50.00
17.	do.	Young Norwich,	R. A. Alexander,	51.00
18.	do.	Hen. Webb's Pet,	do.	51.00
19.	Imp. No. 14,	Young Salisbury,	E. Cornell,	38.00
20.	do.	No. 6	do.	43.00
21.	do.	No. 6	do.	37.00
				$743.00

TWO YEAR OLD EWES.

	Sire.	Dam.		
22.	No. 5	Dam by No. 6	Hon. E. Cornell,	$46.00
23.	do	Dam imported,	R. A. Alexander,	60.00
24.	do	do	Geo. H. Brown,	51.00
25.	do	do	E. Cornell,	50.00
26.	do	Dam by No. 6	do	46.00
27.	do	do	J. W. Alsop, Middletown, Ct.,	40.00
28.	do	do	E. Cornell,	45.00
29.	do	Dam by No. 19	Geo. H. Brown,	51.00
30.	do	Dam an imp. Webb Ewe,	G. G. Hammond, Boston.	66.00
31.	do	do do	do	58.00
32.	do	do do	R. A. Alexander,	80.00
33.	do	do do	G. G. Hammond,	63.00
34.	do	Dam by No. 6	E. Cornell,	45.00
35.	No. 31	Dam by 112,	do	58.00
36.	do	do	do	37.00
37.	do	do	G. G. Hammond,	51.00
38.	do	Dam imp. Webb Ewe,	S. W. Robins, Wethersfield, Ct,	55.00
39,	do	Dam by No. 6,	Geo. H. Brown,	65.00
40,	do	Dam by 112,	do.	60.00
				$1027.00

THREE YEAR OLD EWES.

	Sire,	Dam.		
41.	Young Salisbury,	Imp. Prize Ewe,	R. A. Alexander,	$52.50
42.	do	Imp. Webb Ewe.	Geo. H. Brown,	43.00
43.	do	By 112,	Sanford Howard,	45.00
44.	do	Imp. Webb Ewe,	R. A. Alexander,	45.00
45.	do	By 112,	do.	40.00
46.	do	By 112,	Wm. Hurst,	40 00
47.	do	Imp Lugar Ewe,	J. C. Tatum,	32.00
48.	do	By No. 19,	Geo. H. Brown,	38.00
49.	do	Imp. Lugar Ewe,	J. C. Tatum,	30.00
50.	do	Imp. Webb Ewe,	Geo. H. Brown,	95.00
51.	do	By 112,	Edwin Thorne, Pokeepsie,	25.00
52.	do	Imp. Webb Ewe,	J S. Homans,	37.00
53.	do	do	Geo. H. Brown,	37.00
				$559.50

FOUR YEAR OLD EWES.

54.	No. 6.	Imp. Lugar Ewe,	Edwin Thorne,	$35.00
55.	do 6,	Imp. Prize Ewe,	S. W. Robins,	31.00
56.	do	Imp. Webb Ewe.	F. P. Kincaid, Woodford Co., Ky.,	37.00
57.	do	do	J S. Homans,	33.00
58.	do	do	Wm Hurst,	31.00
59.	do	do	do.	51.00
60.	do	do	do.	45.00
61.	do	do	Edwin Thorne.	40.00
62.	do	do	Wm. Hurst,	48.00
63.	[Dead.]			
				$351.00

FULL-MOUTHED EWES OF OTHER AGES.

64.	No. 112,	Imp. Lugar ewe,	P. R. Close, Greenwich, Ct.,	$35.00
65.	No. 6,	Dam by 112, (Dead.)		
66.	do	do	J. W. Alsop,	29.00
67.	do	Imp. Webb ewe,	R. A. Alexander,	28.00
68,	No. 112,	Imp. Lugar ewe.	J. W. Alsop,	26.00
69.	No. 6,	Dam by 112,	do	23.00
70.	do	Imp. prize ewe,	S. T. Angel, Salt Point,	26.00
71.	No. 112,	Imp. Webb ewe,	Wm. Hurst,	42.00
72.	do	Imp. prize ewe,	R. A. Alexander,	40.00
73.	do	do	J. W. Alsop,	30.00
74.	do	Imp. Richmond ewe,	E. Griffin, Clinton Corners,	29.00
75.	do	Imp. Webb ewe.	J. S. Homans,	23.00
76.	A ewe imported from Webb,		do	20.00
77.	do	do Lugar,	J. W. Alsop,	22.00
78.	do	do do	J. H. Allen, Pleasant Valley,	20.00
79.	By 112 from imp. Webb ewe,	do	do	20.00
80.	do	imp. Lugar ewe,	D. Haywood, Copake,	25.00
81.	do	imp. prize ewe,	J. H. Allen,	20.00
82.	An imported prize ewe,		Wm. Hurst,	13.00
83.	do	do	J. S. Homans,	14.00
				$485.00

RAMS.

1.	Imported Prize Ram Archbishop, Geo. H. Brown,	$500.00
2.	3 yrs. by Young Salisbury, dam imp. prize ewe, John Bard, Barrytown,	30.00
3.	2 yrs. by No. 5. dam by No. 6, Governeur Armstrong, Newburgh,	25.00
4.	do by No. 88, dam by Reserve. Edwin Thorne,	125.00
5.	do do do Josiah Kirk, Sag Harbor,	40.00
6.	1 yr. by No. 14, dam by Young Salisbury, J. C. Tatum,	30.00
7.	do by Archbishop, dam by Reserve, Thomas George, Newburgh,	52 00
8.	do do dam by Young Norwich, P. W. Jones,	17.00
9.	do do dam by Reserve, G. G. Hammond,	31.00
10.	do do dam by Young Salisbury, John Robinson, Clinton Corners,	28.00
11.	do do dam by No. 6, A. W. Storm, Duchess Co.,	30.00
12.	do do dam by No. 6, Jas. O. Sheldon, Geneva,	55.00
13.	do do dam by Young Salisbury, E. M. Botsford, Newtown, Ct.,	26 00
14.	do do dam by 112, Albert Fearing, Boston,	57.00
15.	do do do Edwin Thorne,	70.00
16.	do do do P. W. Jones,	41.00
17.	do do dam by No. 6, Wm. Hurst,	50.00
18.	do do dam by Reserve, Sanford Howard,	35.00
19.	6 yrs. by No. 112, F. P. Kincaid, Woodford Co., Ky.,	50.00
		$1,392.00

AGGREGATE RESULT.

21	Yearling Ewes,	average	$35.39,	total,	$743.00
19	Two-Year old Ewes,	do	54.05,	do	1,027.00
13	Three Yearold Ewes,	do	43.00,	do	559.50
9	Four-Year old Ewes,	do	39.00,	do	351.00
19	Aged Ewes,	do	25.50,	do	485.00
81	Ewes averaged $39.00, total,				$3,165.50
19	Rams, different ages, average $73.26, total,				1,392.00
100	Average $45.57, total,				$4,557.50

◆

MOVEABLE BOTTOM BOARD.

With the moveable frame, a loose bottom board is a nuisance. There will always be more or less cracks from warping and inequalities which will afford a harbor for the moth worm, and a place of deposite for the eggs of the moth. If you raise the hive to clean out these or for other purposes you are almost sure to crush more or less bees when you let it down. It makes a sensitive man feel ugly to bear the crushing of the inocent little workers between the bottom and the edges of the hive, and tends to irritate and provoke other bees and make it unpleasant handling them. If it is cruel "needlessly to set foot upon a worm," how much more so to needlessly kill the industrious little bee who labors early and late to furnish us with luxurious sweets.

Moth Traps.

Mr. Langstroth's moveable blocks, with spaces underneath for the moth worm, cannot well be beat for practical utility. They afford such a nice, cosy, private, accessible place for his wormship to wind himself up, that he is quite sure to avail himself of it. With a snug, tight jointed hive, with bottom-board permanently attached, you will find these pests laid away under these blocks, just where you can lay violent hands upon them every morning when you take the rounds of your apiary. These blocks, in connection with one other place mentioned under the head of bee-stands, furnish us all needful assistance to keep this pest in subjection.

Bee Stands.

Those using Mr. Langstroth's hive will find the following a very cheap, convenient and good arrangement for a stand. Take 2 by 4 inch lumber, and saw two pieces the length of the width of the hive. Place one flat ways under the front of the hive, letting it project forward one inch farther than the bottom of the hive. Set the other up edgeways under the rear of the hive. This inclines the hive forward two inches, and facilitates the exit of the bees when cleaning the hive, and helps them protect themselves against marauding bees. Lay a piece of thin board or a shingle on to the projection under the front of the hive, resting the other edge on the ground. This leaves a space on the top of the 2 by 4 inch piece, and under the board or shingle as the latter rests across the corner of the former. If any worms fail to get under the blocks they are pretty sure to be found here. This board or shingle also affords good facilities for heavily laden or weak bees to crawl into the hive should they fail to reach the hive and fall upon the ground. If a queen ventures out that cannot fly, she can crawl up again into the hive, and thus is saved.

Rolling Prairie, Wis. L. L. FAIRCHILD.

FARMERS' READY RECKONER.

Eds. Co. Gent.—I enclose you a table of dates of gestation of the different domestic animals most common about farm yards. If you think it worthy of space in your really valuable journal, I would be glad if you would find room for it, as I have no doubt that it will prove of use to many of your agricultural subscribers. Quebec.

When served or set.	Time of Coming-in or Hatching.						
	Mares.	Cows.	Ewes.	Sows.	Bitches	Turkies Ducks, Geese.	Fowls.
1 Jan., ...	1 Dec ,	13 Oct.,	2 June.	23 April	5 Mch..	30 Jan.,	22 Jan.
10 do. ...	10 do.	23 do.	11 do.	3 May,	15 do.	9 Feb.,	31 do.
20 do. ...	20 do.	1 Nov.,	21 do.	12 do.	25 do.	19 do.	10 Feb.
1 Feb., ...	1 Jan ,	13 do.	2 July,	24 do.	5 April.	2 Mch.,	22 do.
10 do. ...	10 do.	23 do.	12 do.	2 June.	15 do.	12 do.	3 Mch.
20 do. ...	20 do.	2 Dec.,	22 do.	12 do.	25 do.	22 do.	13 do.
1 March,.	28 do.	11 do.	31 do.	21 do.	3 May,	30 do.	22 do.
10 do. .	7 Feb.,	21 do.	9 Aug.,	2 July,	13 do.	9 April.	31 do
20 do. .	17 do.	31 do.	19 do.	12 do.	23 do.	19 do.	10 April
1 April, ..	1 Mch.	11 Jan.,	29 do.	22 do.	3 June,	30 do.	22 do.
10 do. ..	10 do.	21 do.	9 Sept.,	1 Aug..	13 do.	10 May,	1 May.
20 do. ..	20 do.	31 do.	19 do.	10 do.	23 do.	20 do.	11 do.
1 May. ...	31 do.	10 Feb.,	29 do.	20 do.	2 July,	30 do.	22 do.
10 do. ...	9 April,	20 do.	9 Oct.,	30 do.	12 do.	9 June,	31 do.
20 do. ...	19 do.	1 Mch.	19 do.	9 Sept.,	22 do.	19 do.	10 June
1 June,...	1 May,	13 do.	31 do.	19 do.	3 Aug.,	30 do.	22 do.
10 do. ...	10 do.	23 do.	9 Nov.,	29 do.	13 do.	10 July,	1 July.
20 do. ...	20 do.	1 April.	19 do.	10 Oct.,	23 do.	20 do.	11 do.
1 July. ...	31 do.	12 do.	30 do.	20 do.	3 Sept.,	30 do.	22 do.
10 do. ...	9 June,	22 do.	9 Dec.,	30 do.	12 do,	9 Aug.,	31 do.
20 do. ...	19 do.	1 May,	19 do.	9 Nov.,	22 do.	19 do.	10 Aug.
1 Aug ,...	1 July,	13 do.	31 do.	20 do.	3 Oct.,	30 do.	22 do.
10 do. ...	10 do.	23 do.	9 Jan.,	30 do.	12 do.	9 Sept..	31 do.
20 do. ...	20 do.	1 June,	19 do.	10 Dec.,	22 do.	19 do.	10 Sept.
1 Sept., ..	1 Aug.,	13 do.	31 do.	21 do.	3 Nov.,	30 do.	22 do.
10 do. ..	10 do.	23 do.	9 Feb.,	31 do.	13 do.	10 Oct.,	1 Oct.
20 do. ..	20 do.	2 July,	19 do.	10 Jan.,	22 do.	20 do.	11 do.
1 Oct., ...	1 Sept.,	13 do.	2 Mch.,	20 do.	3 Dec.,	30 do.	22 do.
10 do. ...	10 do.	23 do.	12 do.	30 do.	12 do.	9 Nov.,	31 do.
20 do. ...	20 do.	1 Aug.,	21 do.	9 Feb..	22 do.	19 do.	10 Nov.
1 Nov.,...	1 Oct.,	13 do.	2 April,	20 do.	3 Jan..	30 do.	22 do.
10 do. ...	10 do.	23 do.	11 do.	2 Mch.,	12 do.	10 Dec.,	1 Dec.
20 do. ...	20 do.	1 Sept.,	21 do.	12 do.	22 do.	20 do.	11 do.
1 Dec.,...	2 Nov.,	13 do.	2 May,	23 do.	3 Feb.,	30 do.	22 do.
10 do. ...	11 do.	23 do.	11 do.	1 April.	13 do.	9 Jan.,	31 do.
20 do. ...	21 do.	2 Oct.,	21 do.	11 do.	22 do.	19 do.	11 Jan.
31 do. ...	30 do.	12 do.	1 June,	22 do.	4 Mch.,	29 do.	21 do.

Gathering and Saving Clover Seed.

Messrs. Editors—A correspondent at Spring Station, Kentucky, asks for information in regard to the necessary machinery for gathering and saving clover seed. Your reply thereto fully meets the question for New-York and other Northern States. I have grown and saved much clover seed in Kentucky, and have introduced several clover-hulling machines into the State, and have made no little effort to induce the farmers to save their own clover seed, and all to but little purpose. Clover grows very luxuriantly on the rich lands of Kentucky, like that about Spring Station, yielding a much larger proportion of stems to the seed-heads than is grown in the more Northern States, so that in cutting and threshing in the ordinary way, as suggested in your reply, there is a large amount of straw to be handled and run through the machine to obtain a small quantity of seed; yet clover seed can be saved for home seeding at much less cost than to purchase it.

I early adopted a very economical method of saving clover seed, avoiding the trouble of both mowing and threshing, gathering only the heads from the field. My method was as follows: I made a common sled, (called in Kentucky a slide,) the sides of plank two inches thick, and say six feet long, and set about three feet three inches apart. A box is made of a width that will play free between the sides of the sled, and three feet and three inches long. The forward end of the box is left out. A piece of hard-wood plank across the forward end of the box forms a part of the bottom; the remainder of the bottom may be of thin light wood. Fingers made of locust or some other hard wood, are firmly screwed to the front piece, forming the bottom. These fingers may be fourteen inches long, one inch wide at the top, and beveled so as to be but threequarters or five-eighths of an inch wide at the under side, and threequarters of an inch thick. The points, of course, are to be sharpened. The teeth are secured to the forward bottom plank, so as to leave a space between them of *three-sixteenths* of an inch, the length projecting forward beyond the bottom ten and a half inches, the whole forming a box with a comb at the forward end. The teeth, where they are secured to the forward piece, must fit close together, by sawing the spaces forming the teeth out of solid boards, or if the teeth are made separate, the spaces must be closely filled in order to render the teeth more firm. The teeth will work better if capped neatly with iron hoop; the spaces the same as above given, though if the wood is a little more beveled when covered with iron, they will be more easily cleared.

The box is hung between the sides of the sled by two trunnions of hard wood, two inches in diameter, secured firmly through the sides of the box near the bottom, and working free through two corresponding holes near the top of the sled, or so that the bottom of the box when on a level, will be about eight or nine inches from the ground. To the sides of the box, extending backwards, two handles are secured, at such an angle as will be convenient to hold in following the sled, and to elevate or depress the teeth, to catch below the heads of the clover. The sides of the sled can be held together only by pieces from the rear end of the box. This may be done by two cross pieces secured in mortices to the sides, or in two inch auger holes, and then, to give additional strength, pieces of boards (called plank in Kentucky) may be nailed across the top. One horse will draw this with ease over the clover field, and gather seven-eighths of all the heads, leaving the straw to fertilize the land. The heads thus gathered should be placed for a time upon a scaffold under a shed, or upon a barn floor to dry, when it may be packed in hogsheads until the time of sowing. Even if the seed is to be hulled and cleaned, this is the best way of gathering it, where there is so large a disproportion of straw to the seed, as is usually grown upon the lands referred to.

I have also used a more complete machine made in a somewhat similar manner, but running on wheels, with cog-gearing, for the purpose of revolving a reel with spiral arms, which scrape back the seed from between the teeth as it is gathered. (With the other machine a sharp hoe is carried for the purpose.) But the other machine any ingenious farmer can build himself, and it answers nearly as good a purpose, and several acres can be gathered with it in a day, and enough can be gathered in two days to pay the whole cost of the machine at the ordinary price of clover seed. Seed kept and sown in the chaff I have sometimes thought came up better than that which was cleaned. In many years farming in Kentucky, I saved in this way all of my own seed, and much that was sold in the neighborhood, after the first seeding. H. P. B.

Sorghum Cake.

I send you a receipt for making cake of sorghum. To 1 pint of molasses, 1 cup butter, 2 eggs, 1 teaspoonful soda, add 1 tablespoonful of wine, as it adds to its flavor, and moistens flour enough to render it the consistency of unbaked pound cake. Bake in a hot oven. Fannie.

NEW-YORK STATE FAIR.

The Twenty-Third Annual Fair of the New-York State Agricultural Society, held at Utica last week, was a decided success. The weather, till the last day, was all that could be desired, and the attendance Wednesday and Thursday, taxed the Utica street cars and omnibuses to their utmost capacity, and hundreds could find no means of conveyance to the grounds. The trains on the New-York Central Railroad were, also, unable to carry all the passengers that presented themselves at the various stations along the route, and many were undoubtedly deterred from attending the Fair, by the difficulty of getting there. Many articles intended for exhibition were also delayed on the road. We mention these things not in any fault-finding spirit, but to show that notwithstanding the excited state of the country, our people have not lost their interest in agriculture and the mechanic arts.

The Stock Department

Was not as full as on former occasions. Some of our most celebrated breeders did not exhibit. One of them informed us that the demand for his stock had been so large that he had little left to bring to the Fair. Still the exhibition of stock was good, though not large.

Among the cattle the SHORT-HORNS, as usual, were most numerous. There were some splendid animals of this valuable breed. In the class of three-year old bulls and upwards, "Hotspur," bred and owned by T. L. Harison of Morley, St. Lawrence county, was well worthy of the first prize and diploma awarded him by the committee. We have felt much interest in watching his progress since he was first exhibited at the State Fair at Watertown, in 1861, where he took the first prize as the best yearling bull, and the sweepstake as the best Short-Horn bull of any age. He has fully sustained his early promise, and the farmers of the northern counties are to be congratulated in having such excellent stock among them. "Iron Duke," owned by Messrs. Brodie, Campbell & Co. of New-York Mills, Oneida county, which took the second prize in this class, is also a large well-grown bull. Among the two-year old bulls, that shown by T. G. Aycrigg of Passaic, N. J., though somewhat low in condition, has many good points, and is well worthy the honor of the first prize which it received. Of yearling bulls there was but one shown—a very fine one, "Lord Mayor of Oxford," owned by Elihu Griffin of Clinton Corners, Duchess county. The red bull calf, owned by T. L. Harison of St. Lawrence county, and which took the first prize, is a very fine animal of great promise; as is also the red calf of George Butts of Manlius, which took the second prize. The competition was very close.

Of Short-Horn cows, three years old and upwards, there was a very fine ring. "Blooming Heather," bred by Samuel Thorne, and owned by Geo. H. Brown of Washington Hollow, Duchess county, took the first prize, and Mr. Cornell's "Lilly Languish" the second. The red cow, "Cyprus," owned by E. Griffin, and which was awarded the third prize, is also worthy of mention. The heifer calves shown by E. Cornell of Ithaca, and Geo. Butts of Manlius, were two as good calves as were ever exhibited at our State Fair.

Of HEREFORDS the show was not large, but the animals were of superior quality. Mr. E. Corning, Jr., of Albany, carried off all the prizes.

Among the DEVONS were some excellent animals, but none that need be specially alluded to.

The AYRSHIRES were well represented. This excellent milking breed is steadily gaining a foothold in the dairy districts of the State. The cows shown by Messrs. Brodie, Campbell & Co., are models of beauty.

Of ALDERNEYS the show was in no way remarkable, either in numbers or quality.

Sheep.

We have heard much of the prevalence of the "sheep fever," and had expected a large show, but in this we were disappointed. All the various Merino breeds were this year included in one class, and some of the breeders of Spanish sheep complained that it was not fair to make them compete with the Silesian, which is a larger breed of sheep. Be this as it may, the Spanish sheep were but meagerly represented. Of Silesian, Mr. W. CHAMBERLAIN of Red Hook, N. Y., showed 42 head, and carried off nearly all the prizes. We have so frequently alluded to these sheep that it is unnecessary to say more than that they fully maintain the high character so generally accorded to them. We noticed one pen of Spanish Merino ewes shown by Chester Baker of Lafayette, Onondaga Co., N. Y., which were very handsome.

Of GRADE MERINOES there was a good display, principally from the flock of Mr. Chamberlain. They were from the ordinary Merino sheep of the country crossed with a Silesian buck, and certainly possessed many excellent qualities.

Of SOUTH-DOWN SHEEP the show was not large, but there were some excellent specimens exhibited by Jacob Lorillard of Fordham, and E. Cornell of Ithaca.

The Shropshire-Down ram exhibited by Mr. Lorillard was a remarkably fine sheep, and we regret that Mr. L. was not a larger exhibitor.

Of COTSWOLDS and LEICESTERS there were some noble looking specimens. We class them together because we cannot but believe that the modern Leicesters owe much of their great size to the infusion of Cotswold blood at a more or less remote period. We deem this no objection to them. The breed has undoubtedly become established, but it would be well to give them some other name. The genuine pure bred Leicester is a much smaller sheep than those now shown in Canada and in this State, and we believe in Scotland, under that name.

Jurian Winne of Albany showed some splendid specimens of this breed, which attracted much attention from their great size. Brodie, Campbell & Co., as usual, were large exhibitors in this class, and carried off many of the prizes. James F. Converse of Woodville, Jefferson Co., showed some very fair Cotswolds, and we were much pleased with some splendid Cotswold and Leicesters shown by Luther Lawyer of Perch River, Jefferson Co.

Pigs.

The show of swine was confined almost exclusively to the large breeds. Where are the Suffolk and Essex breeders? It cannot be that the large breeds have driven them out of the State!

The Yorkshires and Cheshires were well represented. In fact we have rarely seen a finer show of these large breeds of pigs. John F. Converse of Ellisburg, Jefferson Co., exhibited a Yorkshire boar that is the best we have seen for some time—long, square bodied, entirely white, with a good head and remarkably fine upright ears. Several of the Yorkshires shown were narrow on the shoulders. The Cheshire hogs first attracted our attention at the State Fair at Watertown in 1861. This breed seems to be confined almost entirely to Jefferson Co. One of the pigs attracted much attention at the State Fair at Watertown in 1861, on account of his great size. He was then sixteen months old, and was said to weigh 700 pounds. He was owned by T. T. Cavanagh. Mr. C. exhibits a hog this year (we presume the same one) that weighs 1,100 pounds. He is 6 feet 10 inches around the shoulders, and 6 feet 8 inches long! We do not mention this as any evidence of superiority in the breed, for it certainly is not; but these Cheshire hogs *have* qualities that would seem to recommend them. They are large, square, well-formed, handsome white pigs, but have the appearance of fattening easily. Nearly all the swine were of this breed. S. P. Huffstater and T. T. Cavanagh of Watertown exhibited several pens. Mr. A. C. Clark of Henderson, Jefferson Co., also showed one or two pens of this breed. One pen of five, only 5 months old, were of great size for their age, and very handsome. He also showed a breeding sow, 4 years old, that has raised eighty pigs. On remarking that she was too fat to breed, Mr. C. replied, "Perhaps so, but it is difficult to keep her poor; everything she eats turns to fat." The New-York State Utica Asylum showed some very fine Yorkshire pigs, and G. C. Palmer of New-Hartford, exhibited a Leicester and Yorkshire sow, with 10 pigs, that was very good; but the Cheshires were unmistakably the favorite breed at the Fair. W. B. Dinsmore of Staatsburgh, Duchess Co., showed a fine white Suffolk boar, and there were one or two other exhibitors, but the show of small breeds was small indeed.

Cashmere Goats.

Mr. Dinsmore also exhibited six Cashmere goats, which attracted very general attention. Mr. D. has some 40 or 50 head of these animals. They shear between three and four pounds of wool per head. It is said to sell for $5 or $6 per pound, but at present there is no market for it in this country. Doubtless there soon will be if it is shown that we can raise it—and there would seem to be no reason why we cannot.

Poultry.

There was the finest show of the feathered tribes that we have had since the decline of the "chicken fever." E. N. Bissell of Shoreham, Vt., showed 15 coops, and Heffron & Barnes of Utica, 30 coops. Among the latter was a pair of two-year old Toulon geese that weighed 50 pounds. A pair of White China or White Swan geese, attracted much attention. They were very graceful and beautiful. Of chickens nearly all the breeds were well represented—from a large Shanghai to a diminutive Bantam. Dorkings, Spanish, Polands, Bolton Grays, &c., were out in full force. So of the ducks—Muscovy, Black Cayuga, Rouen, Aylesbury and other breeds, were well represented. The Muscovy ducks were almost as large as an ordinary goose. Guinea and Pea Fowls were also there, and the beautiful little Pigeons—forming one of the most interesting features of the exhibition.

Agricultural Implements and Machines.

The striking feature of the exhibition was the excellent show of agricultural implements and machines. There have been greater displays, but for intrinsic merits—for new improvements, we think the fair at Utica will compare favorably with any that have preceded it. We have space to notice only a few of the many excellent agricultural implements and machines on the grounds, and that very briefly.

Cheese Making Apparatus.

A farmer contemplating engaging in cheese making, would have had no difficulty in supplying himself on the grounds with every necessary utensil. Ralph & Co. of Utica, showed a very fine collection, including steel curd knives, milk cans, metallic cheese hoops, curd scoops, milk strainers, cheese presses, &c. Their "Oneida Cheese Vat" is well known to the readers of the COUNTRY GENT. They exhibited some patterns of this vat, both for factories and for private dairies, and it is difficult to see how it could be improved.

H. & E. F. Cooper of Watertown, also exhibited "Roe's Western Reserve Cheese Vat," which we have so frequently recommended. If our dairymen do not succeed in making the best cheese in the world, it will not be for want of mechanical appliances.

Bullard's Hay Spreader and Turner.

This new implement for spreading out and turning hay was at work on the grounds, and attracted much attention. It did the work rapidly and well, and certainly far cheaper than it could be done by hand. It is manufactured by Silas C. Herring of Brimfield, Mass.

Horse-Power Threshing Machines.

Several of them were in operation, and, as usual, were surrounded by a crowd of spectators. Wheeler, Melick & Co. of Albany, had several of their well known machines on the grounds. During the past year they have made an improvement in their machine, which will materially add to its value. The transverse rods, which were under the horses' feet, are dispensed with, and a self-sustaining link with *cast-steel journals*, substituted in their place. This brings the weight of the horses on *both sides* of the small wheels, and will make them run easier and steadier, and less liable to get out of repair.

Westinghouse & Co. of Schenectady, have also made improvements in their excellent Horse-Power and Threshing Machine. An intelligent and disinterested farmer, who had more time to examine them than we had, remarked that their machine cleared the grain far better than any other machine on the grounds.

Wheeler, Melick & Co., Westinghouse & Co., and Dow & Fowler of Fowlerville, N. Y., also exhibited their lever horse-power threshing machines.

Straw, Hay, and Corn-Cutting Machines,

Were well represented. H. K. Parsons of Harrisburg, Pa, exhibited several sizes of "The Eureka" crusher and cutter, which has few if any superiors. Dow & Fowler of Fowlerville, N. Y., also showed one in operation, driven by horse-power, that crushed the cornstalks and cut them up exceedingly fine, and left them in excellent condition for feed. A *combined* straw-cutter and corn-sheller was shown by J. S. Taylor of Rome.

Grain Drills

The numerous grain drills on exhibition indicate that farmers are paying more attention to drilling in their wheat and other grains. Most of the drills shown were excellent, and are so arranged that they will sow any kind of grain, wheat, barley, oats, rye, peas, corn and beans. Several of them have attachments for sowing plaster and other manures at the same time, as well as timothy and clover seed. The drill manufactured by N. Foster of Palmyra, N. Y., is of this character, as is also the "Buckeye Grain Drill and Grass Seed Sower," and it has has this advantage—the grass seed is sown behind the drill, so that there is no danger of the drill spouts covering it too deeply.

H. L. & C. P. Brown's of Shortsville, Ontario county, N. Y., is also a very superior drill, capable of sowing all kinds of seeds, manures, &c. Some recent improvements have been made in special reference to sowing beans, corn, &c.

S. P. Hubbell of Unadilla, N. Y., exhibited his *broadcast* grain, seed and plaster sower. It will sow from one quart to thirty bushels per acre. At the ordinary gait of a horse, it will sow thirty acres per day.

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A GOOD IDEA.—At the annual meeting of the Isle of Wight Agricultural Society, which was lately held at Newport, a novel feature was introduced into the exhibition by premiums being awarded for horse shoeing, in which department nine smiths from different parts of the island competed. The work of all was done satisfactorily, and it was somewhat singular that the prizes with one exception were awarded to competitors from villages who on this occasion distanced the townspeople.

THE CURRANT AND GOOSEBERRY.

The currant was among the earliest fruits cultivated in this country, or we should rather say grown, for it received but little care or culture. The bushes were generally set along the garden fence, and suffered to grow up in large bunches, seldom thinned or pruned, and of course the fruit was small and inferior in quality, yet it has ever been esteemed as a valuable fruit in the family. With the care that fruit now generally receives, the currant is greatly improved in size and quality, and should have a place in every garden. No plant is propagated with more ease and certainty. It strikes readily from cuttings, and from these they may be brought into vigorous bearing in two or three years. There are different methods practiced in growing this fruit. Some cultivators set the plants and permit the shoots to multiply at the bottom to the number of twenty or more, and then from year to year cut out the old and decaying branches, and thin out the young wood, until the number is sufficiently reduced to give light and air to the growing fruit. But the better method is to grow them with a single stem, in the form of a miniature tree. With proper care, in this form, the largest fruit may be grown. It is easy to establish this habit, provided the cuttings are prepared for it before planting; and this is done by simply cutting out the eyes or buds from the base up, leaving but two or three at the top. Cuttings strike root more readily, and make a better growth in the spring, if planted in the fall. This should be done in September, or as early as the leaves fall. Cuttings should be of young wood of the same season's growth, and should be cut about twelve inches long. It is best to set them in nursery rows, at a distance of ten or twelve inches apart. They may be set seven or eight inches in the ground. The following spring the plants may be reset where they are to stand. With a little care and judicious pruning, bushes grown in this form will remain productive a long time, and are more easily kept free from weeds and grass, than when permitted to grow up in a mass of stems together. Of the various ways in which the currant may be used, little need be said; every good housewife understands this. For medicinal purposes the currant makes an excellent wine, and should always be preferred to the adulterated material sold under the name of foreign wine.

The currant, like most other fruits, has been greatly improved within a few years past, by the introduction of new varieties. Among the kinds most highly recommended, is the May's Victoria, Red Dutch, White Dutch, White Grape, and some others. The Cherry currant is among the largest and for a time attracted much attention, but of late it is less highly esteemed, as not possessing the good qualities of some of the smaller varieties, yet we should be reluctant to discard it altogether. The Black currant, too, is worth attention, and a few bushes of these should find a place in every garden of considerable size. The Black Naples is the best.

The Gooseberry.—The foreign varieties of this fruit have been found so subject to mildew in this country, that they are less extensively cultivated than formerly. In some localities they still do well. For instance in large cities, where a place for them can be found, they are not attacked with this disease. Mr. Longworth in Cincinnati, has grown them in the greatest perfection. It is probable that the atmosphere is in some way modified by the fire of the manufactories, or from some other local cause, that renders them exempt from mildew in cities. Several new native seedlings have recently been introduced, that promise to be exempt from disease. Among these are Downing's and the Mountain seedlings. These new seedlings are much more liable to send up suckers than the currant, and it is a matter of the first importance that the eyes be removed, as recommended for the currant. The cuttings should be set at the same time and in the same manner. We throw out these hints for the benefit of those who have heretofore neglected the cultivation of these fruits. H.

A HOUSE TO DRY FRUIT IN.

In many sections of the country there is an abundant fruit crop the present season; much of this fruit cannot be sent to market, to profit, in its green state, and may be dried to good advantage, and find a ready sale at high prices. While the war lasts, there will be an unusual demand for dried fruit. The usual methods employed for drying fruit are slow and tedious. In Kentucky and Tennessee, where apples and peaches are extensively dried, they have a cheap method of building kilns for the purpose. These are built of the common limestone of the country. A furnace or fire-place is made, about two feet wide and six feet long, terminating with a low chimney at the opposite end. The walls are laid up about about eighteen or twenty inches high, and then covered over with thin slabs of limestone, and the whole made smooth with a coat of mortar; upon this the fruit is dried. A rough shed is built over the kiln, so that the work can progress in rainy weather. This method of drying fruit, however, is objectionable; exposed to the air, it dries slow, and even with the greatest precaution the fruit is often burned on one side over the hotest portion of the furnace.

At the Shaker establishments in Kentucky, they have a method of drying fruit that is both expeditious and very complete. It consists of a building of logs, brick or stone, of any convenient size—say ten feet wide by twelve or fourteen feet long; the walls seven or eight feet high, with an ordinary roof. Upon the top of this should be a ventilator, sufficiently large to admit of the escape of the vapor arising from the fruit. An opening may be left along under the eves for ventilation, but it is better to have it on the top of the building. At one end of the house a furnace is built, opening on the outside. This is about two feet square. The sides are of brick, and only sufficiently thick to sustain the top. The flue extends the length of the building, and returns to the chimney near the furnace door. The top of the furnace and flue may be covered with any old plates of cast-iron, or sheets of boiler iron; thicker iron, or a covering of brick or stone, might not admit of the escape of sufficient heat to dry the fruit with facility. The fruit is dried on trays or hurdles, arranged in three tiers, one above another, with a space of twelve or fifteen inches between them. The hurdles are two feet or more wide, and six feet or more long, and three inches deep. These are simple trays made of pine boards, with bottoms made of small strips, or laths of hard wood. Through the length of the building, and extending six or eight feet outside, scantling are put up to support the three tiers of hurdles. A broad door is made at the end of the building to correspond with each tier of hurdles. Upon each pair of scantling a frame is made to correspond with the width, which runs out and in the building upon rollers, in the form of a railroad. The frames are drawn out through the end of the building and the trays of fruit placed on them crosswise, and then run in. Thus arranged, with the three tiers of rails filled with trays of fruit, about one and a half or two barrels of fruit can be dried at once, requiring about twenty-four hours to complete the process. The trays nearest the fire, of course, will dry the fastest, and with the convenience of the railroad and the shutters in the end of the building, they may be drawn out and changed to the upper rails, when the whole may be equally dried within the twenty-four hours in the most perfect and uniform manner, without the least burning. The fire is made on the bottom of the furnace; which consumes less fuel, and keeps up a slow and more uniform heat than if placed above the draft.

In some instances I have seen old steam boilers of small size, used for the furnace and flues, and these where they can be obtained cheap, answer every purpose; these radiate the heat readily, and a small amount of fire answers the purpose.

There are many sections of the country where peaches and early apples cannot be readily sent to market, and at this season of the year, when grass is abundant, they are of less value to feed to swine, they may be dried in this way to good profit. In remote sections of the country fruit-growing may be made a source of considerable profit in this way. The demand for dried fruit will always be greater than the supply. H. P. B.

A Safe and Easy Method of Swarming.

I propose giving a few brief directions for a method of swarming bees, that I have practiced for several seasons, and which I think will be found useful to those who will give it a trial.

In the spring, when you are examining your colonies of bees, and arranging them for the season, see that each hive is placed near the ground, (a height of three or four inches I prefer,) and have a separate alighting board attached to each, reaching from the ground to the hive. Now hunt up your queens, and clip off one wing from each queen. A pair of small sharp-pointed scissors, with blades about an inch and a quarter long, that can be carried in the vest pocket, will be found very convenient for this purpose. With a little practice you will find that the wing of a queen can be taken off while she is running on the frame among the bees, without touching her with the hand, or injuring her in any way. Get ready a few queen cages—anything that will hold a queen securely will answer—but a cylinder made of number 8 or 10 wire gauze, about three inches long and three-fourths of an inch in diameter, with a cork fitting in each end is very good. You are now ready for your bees to swarm. When you see them coming out, look out for the queen; she will be found very easily, on the alighting board or near it. Put her in a cage, and attach the cage by a wire or piece of string, to the limb of a tree, or lay her on the top of an empty hive in the shade, where the bees will find her. They will cluster around her, and wait until you are ready to hive them. Now remove the parent stock to a new stand, and arrange an empty hive in the place of it. Take the cage containing the queen from the cluster of bees, and open it at the mouth of the new hive. The queen will enter and the bees will soon follow and hive themselves. If you have any objection to hunting in the cluster of bees with your fingers, for the cage containing the queen, which I have not, you may hide the queen where the bees cannot find her until you are ready to put her in the hive; but in this case you must be quick in your motions, for the bees will sometimes return without clustering at all.

The next thing to be done is to examine the parent stock, and cut out the queen cells and give them a fertile queen, a number of which should always be kept on hand during the swarming season. My experience thus far is, that a stock of bees that has swarmed within a few days, will always receive a new queen without any preparation. I usually put the queen in a cage such as I have described, and lay her on top of the frames among the bees, while I am looking over the hive, and when I have done I let her out. It is highly necessary to clip a wing of the new queen before you introduce her, as, if the honey season continues, she may be expected to come out again with a powerful swarm in a little over three weeks from the time she was introduced, when the whole process must be gone through with again. With Italian bees, to which I am now more particularly referring, you may allow very late swarms to issue, and by giving them, if necessary, a frame of sealed honey from some of your other colonies, to encourage them until the second crop of red clover comes in blossom, they will then very rapidly fill their hives, and give you a considerable surplus besides, and will also frequently swarm again if you will allow them to do so, which I do not, as my principal difficulty is, not in getting swarms, but in preventing my bees from increasing more rapidly than I can take charge of them.

The raising of queens to give to swarms, which is another branch of bee-keeping for which I have not room here, gives rise to so great an increase of bees, and what is of still greater value, new worker comb, that I am entirely indifferent to the issuing of swarms, unless they occur very early in the season, preferring the honey to the bees. What is commonly understood by "artificial swarming," I disapprove of entirely. I have tried it, but have never found that bees, forced to swarm, would work with the same vigor and success as those that issued naturally. Neither have I any faith in "non-swarming hives,"—so called. The instinct of swarming was created with the bee, and swarm they will when the time comes, unless you confine the queen, which for several reasons is not advisable. The method that I advocate makes every hive a certain non-swarmer, or otherwise, just as the owner pleases, and frequently within half an hour of the bees issuing, they will be found returned and at work in the honey boxes, to all appearance just as vigorously as before they issued.

There are also several other advantages of this mode of swarming, to some of which I will just allude. The shifting of the parent stock is a great advantage. It insures a powerful swarm, as all the bees that were in the fields at the time of swarming, will of course return to the old stand. The parent stock will also lose bees for several days, which the swarm will gain, and notwithstanding this great loss, the parent stock will be all the stronger for it in the end, as it will give the new queen a chance of laying in the cells as they are vacated by the young bees, before they can be filled with honey. It is to this circumstance, no doubt, that the great strength of the second swarm is to be attributed. I consider it no small advantage that I can leave home at any time during the swarming season, and be positively certain that I will not lose my best swarms while I am away. It is some small advantage that I am no longer called on to chase fugitive swarms, or to climb trees and cut off limbs at the risk of my neck, or perhaps, when holding a hiving box under a swarm, to have the limb shaken a moment too soon, and the swarm, instead of falling into the box, to fall all over me. As I use no protection to face or hands in swarming, this would be unpleasant.

It is hardly within the scope of this communication to treat of introducing queens, but having seen what is called the Aspinwall method, endorsed by pretty high authority, I would say that to me it has a barbarous aspect. The moment that a queen is dipped in honey, the orifices of her breathing tubes are of course closed, and she commences suffocating and the injury she receives depends entirely upon the time it takes the bees to clean her off. Besides this, if the queen, be not offered until a week after the old queen is taken away, and the queen cells are all cut out, it is entirely unnecessary. I have never met with a case where the bees under such circumstances, would not receive any queen that was offered them, within five or six minutes of her being offered, and without any preparation whatever. I usually introduce my queens very soon after the old one is taken away, seldom leaving it later than the next day, and preferring to do so before the queen cells are commenced. I cannot at this moment recollect an instance where I failed of success since I adopted my present method of introducing queens.

Hulmeville, Pa. C. W. TAYLOR.

CURRANT WORMS.

I observed in the Co. Gent., a short time since, a method to destroy currant bush worms, by applying lime. I do not like this method, nor anything else put on the bushes, for the reason that the worms make their appearance when the currants are about half grown; hence whatever is put on the bushes spoils the currants.

I have practiced a method for a number of years, which is easy, cheap, and most effectual. As soon as I perceive the worms I take an empty tin pan (the size of about 12 quarts) in one hand and a little stick a foot long, and as big as my finger, in the other; thus prepared, I hold the pan under each stem of the currant bush, strike with the the stick on the stem of the bush, which jars off the worms into the pan. This I do to every stem of the bush; the upright stems I bend over, so that the worms shall fall into the pan. Thus serve every bush about three times, 3 or 4 days apart. When the worms crawl up the sides of the pan shake them down; when you have many in the pan throw them into the fire. A man will thus go round 40 or 50 bushes in an hour. Thus the worms are destroyed for the present, and the currants perfectly clean. If the worms are not destroyed, in two or three years the bushes will die. John T. Addoms. *West Plattsburgh.*

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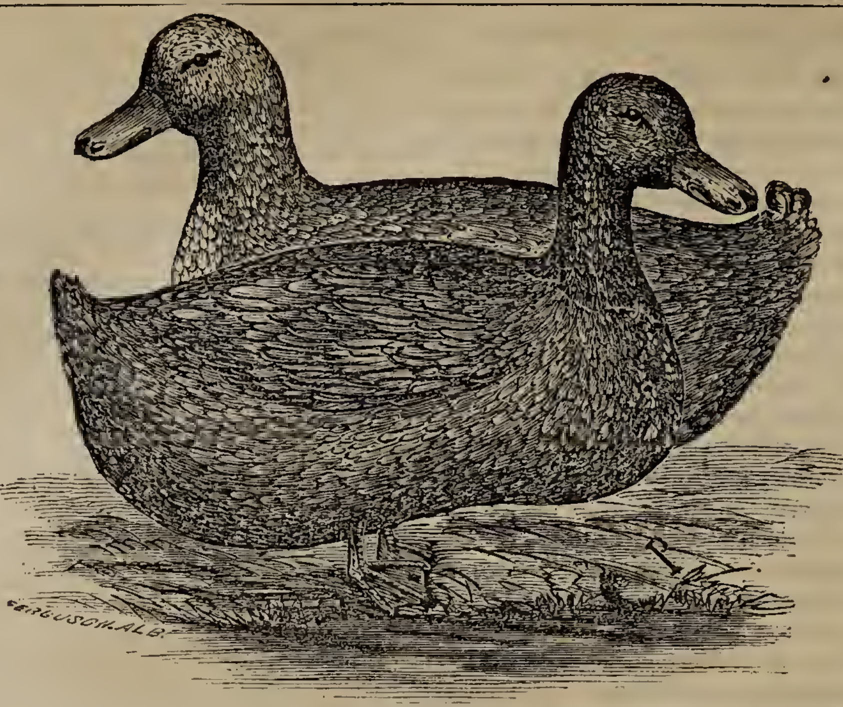
☞ An Agricultural Show on a large scale is proposed at an early period at the city of Calcutta, India.



THE CAYUGA BLACK DUCK---ITS HISTORY, ORIGIN, &c.

This bird derives its name from the lake on which it is supposed to have been first discovered. But of its origin, like that of the domestic fowl, little is now known It is very natural, therefore, to inquire whence so remarkable and valuable a bird was originally obtained; but the conclusion seems to be that it results from the intermixture of the Wild Black Duck, (*Anas obscuria*,) not uncommon in our lakes and rivers; this appears to be the popular opinion at the present time, and if we are limited to any one of the wild breeds of this genus, now known to us, in our inquiries for the probable ancestor, it is to the *Wild Black* duck, in our humble opinion, the honor should be assigned.

This species, as we are informed, has been domesticated in several places, and was quite common some fifty years ago, in the barn-yards in the vicinity of Boston, &c. "In the year 1812," says Dr. Bachman, in a note addressed to Mr. Audubon, "I saw in Duchess county in the State of New-York, at the house of a miller, a fine flock of ducks, to the number of at least thirty, which from their peculiar appearance, struck me as different from any I had before seen among the different varieties of the tame duck. On inquiry, I was informed that three years before a pair of these ducks had been captured in the mill pond. They were kept in the poultry-yard, and it was said were easily tamed. One joint of the wing was taken off to prevent their flying away. In the following spring they were suffered to go into the pond and they returned daily to the house to be fed. They built their nests on the edge of the pond, and reared large broods The family of the miller used them occasionally as food, and considered them equal in flavor to the common duck, and were easily raised. The old males were more beautiful than any I have examined since, and as yet domestication has produced no variety in their plumage."

"The young of this species,"—the Wild Black duck—says Audubon, "grow with remarkable rapidity, and, like the Mallard, of which they seem to be only a variety, acquire the full beauty of their spring plumage before the season of reproduction commences. * * * * In the early part of autumn the young afford delicious eating, in our opinion very much superior to the famous and more celebrated canvass-back duck."

"It is admitted," says a writer, "that our Cayuga ducks originally sprung from the Wild Black duck; however altered they may now appear in bulk, color or habits, the essential habits remain the same; no disinclination to breed with each other is evinced between them, and the offspring are as prolific as their mutual parents. The general tone of their plumage is closely repeated in all specimens."

For the following interesting account, and the very spirited portraits of the Cayuga Black ducks figured at the head of this article, we are indebted to the politeness of Mr. J. R. Page, of Sennet, Cayuga county, who is a successful breeder of them:

"Of the origin of the Cayuga duck," says Mr. Page, "I cannot give anything reliable. This duck has been bred in the county so long, that all positive traces of the origin, so far as I can learn, is lost. Tradition says they are descended from a sort of wild ducks that stop in Cayuga Lake and Seneca River, on their passage North and South, fall and spring; yet from hunters I have never been able to obtain or hear of any closely resembling them, either in weights or feathers. Yet they are called the 'Big Black duck,' 'Cayuga,' or 'Lake duck' The first I ever heard of them was between twenty and thirty years ago. A farmer near Montezuma, on Seneca River, had a flock of ducks bred from wild ducks he had caught, and that they were very large and fine. Another tradition is, that they are a stock brought from one of the Hudson River counties," [probably those mentioned by Dr. Bachman,] "but the general belief is as above, that they originated from a wild stock.

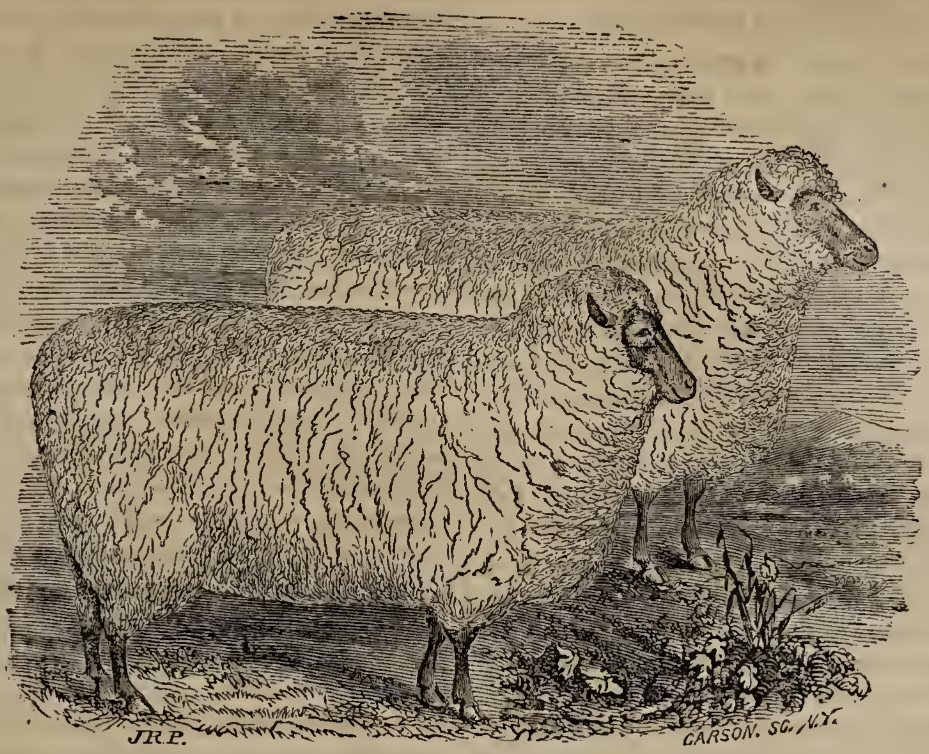
"The Black Cayuga duck in perfection, is black with a white collar on neck, or white flecks on neck and breast—rarely black without white, and as the white seems inclined to increase, we usually select them nearly or quite black for breeding. The duck has a faint green tint on head, neck and wings. The drakes usually show more white makings than ducks, and the green tint on head and neck is more strongly marked. They differ from the East Indian and Buenos Ayrean ducks very materially, are much larger, longer in body, and shorter in leg, better feeders, but are not so intense in color; indeed, beside the East Indian, (and I have the latter,) the Cayuga looks brown."

"The plumage of the Cayuga duck," says another writer, "is of great richness, much resembles the wild duck; the the drake's especially is magnificent, its head and neck being a rich lustrous green, with a white ring at the base of the neck, breast of a reddish brown, the remainder of the body and wings partaking very greatly of the Wild Mallard.

Characteristics. — "When well fed," continues Mr. Page, "the ducks begin to lay about the first of April, and usually give an egg every day until she has laid eighty or ninety, when she will make her nest and sit if allowed; if not, will generally lay a litter in September,

"The Cayuga duck is hardy, good size, and for the table is superior to all other ducks or poultry of any sort; flesh quite dark and high flavored. If well fed they become very fat; can be readily made so fat they can't step over a broom stick; cannot raise themselves from the ground by their wings, a foot wide board keeping my ducks from my little trout pond. My flock last year weighed—ducks, one to three years old, 7 to 7½ lbs. each. Drakes 9 lbs., ducks 8 lbs., or 17 lbs. the pair; yet these are extreme weights, and only reached by careful feeding, and in very small flocks; 12 to 14 lbs. the pair would be a good average in large flocks. I once had a small flock that averaged at six months, 16 lbs. the pair, but they had been forced to their utmost, and never gained weight after six months."

Another writer says—"the Cayuga duck is very quiet in


J.R.P.
CARSON. SC. N.Y.

Two South-Down Ewes, two years old. Bred by and property of Samuel Thorne Thornedale Washington Hollow, Duchess County, New-York.

its habits; can't fly, rarely able to rise from the ground, a fence one foot high will turn them; not disposed to wander from home; commence laying about the last of March, fifty to ninety eggs, when they wish to sit if everything is convenient; sit well; careless mothers, cross readily with other ducks, and produce is certain."

"One of my ducks," continues Mr. Page, "showed a disposition to nest early this year; set on 14 eggs; hatched 13 young, and bids fair to raise all of them, as they are now, (July,) several weeks old, yet the duck and young ones are more often seen apart than together." C. N. Bement.

Stamford, August 17. 1863.

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The New-Jersey State Fair, which was held at Paterson, Sept. 8–11, is said to have been a very creditable one. A large number of people from all parts of the State were present, and the list of articles for exhibition were far more numerous than on any former occasion. The trial of horses excited considerable interest. The fair on the whole was a success, although, owing to the delay in forwarding articles for exhibition, the first days were not as promising as were expected.

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Vermont State Fair.—This Fair was held at Rutland on the 8—11th, and the weather proving favorable, there was a large attendance. On the 8th there was a convention of wool-growers and an address by Col. H. S. Randall, on the Sheep of Vermont, and a report by Col. Needham, the Secretary of the Society, of his visit to the Hamburgh Exhibition, dwelling especially on the part that Vermont sheep played in that show. The Middlebury Register says—"In most departments the show was less imposing and generally of less interest than usual, though very many articles of great merit were exhibited in each department, and of many of them we would like to make special mention. In the department of Sheep the exhibition was really excellent. Of this it would be difficult to speak too emphatically. Vermont farmers now fully understand that their great strength lies here, and we are glad to see that they appreciate this important fact."

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☞ Messrs. Lewis & Goodwin of Albany, have laid on our table a sample of the Lithographic View of the Fair Grounds of the State Society at Utica last week, advertised by them in another column. It gives a very good idea of the enclosure, and those who were there should send for a copy as a memento of the occasion.

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The Lombard Plum.—This is on the whole the most certain and reliable plum for the Northern States. During the severest winters, it has been scarcely affected, while other varieties have been badly injured—it is a fine strong grower, and an abundant bearer. In recently examining an experimental orchard of about 60 varieties, which had been nearly all stripped of its fruit by the curculio, (owing to absence of the proprietor,) the Lombard had a fair crop. The fruit although not of the very highest quality, is pleasant and agreeable, and better than some famous sorts—such as the Washington, Smith's Orleans, &c.

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Successful Underdraining in the West.—Sanford Howard, of the Boston Cultivator, gives an interesting statement in that paper, of a successful experiment in draining the black, heavy soil, eight miles south of Chicago, for raising garden vegetables. George W. Gage, one of the proprietors of the Tremont House, Chicago, purchased fifty acres of this land about five years ago. A few brush drains were made the first year, by way of trial. The result was so favorable that 30 acres have since been brought under cultivation, and of these twenty acres were drained last fall. The receipts, consequently, are, as yet, only partial; but for the year ending last spring, they had amounted to $5,720; for three months of the early part of the present season, they amounted ta $1,773, $800 of which had been received from half an acre of ground of Wilson's strawberry. Melons have succeeded finely, when sheltered from the light winds, between rows of peas eight feet apart, the pea sticks being allowed to remain for that purpose.

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Wheat to China.—The second lot of grain ever shipped from California to China, left San Francisco lately. It was sent in bulk, to the amount of one hundred and twenty tons. The same vessel carried potatoes and flour to our Celestial friends.

HORTICULTURAL NOTES.

The Culture of Pear --The Difference.

After so much has been said, and so often repeated in regard to the importance of bestowing the proper care and treatment upon pear trees, particularly those growing upon the quince stock, one would suppose that no intelligent planter would attempt to grow this valuable fruit without first understanding all the essential requisites to success, with the determinationt of ully provide them, and yet in the largest number of gardens these are altogether neglected, notwithstanding the striking contrast between their own practice—or rather want of practice—and that of their successful neighbors. Some men, amateurs, take hold of this subject, with no previous experience, taking the horticultural publications of the day as their only guide, and at once their success is all that could be desired, producing fruit in abundance and in the greatest perfection. Others, seeing the success of their neighbors, buy their trees and plant them out, and then leave them to take care of themselves, and fail in their attempt to grow good fruit, and then wonder why they do not succeed as well as others. Recently, in visiting several gardens in my neighborhood, the contrast between care and neglect is painfully apparent. A., a mechanic, has, in a small garden, besides most other kinds of fruit, about one hundred pear trees, standard and dwarf. These trees were planted on ground well trenched and highly manured, and have been properly pinched back and trained from the beginning. They are now models of health, symmetry and beauty. These trees are now generally loaded with the largest and fairest specimens of fruit. The soil of this garden is light and sandy; besides being well manured in the beginning, in dry weather, and at other times it receives about the trees, copious supplies of liquid manure, which is kept constantly on hand in a tank prepared for the purpose. No great labor is bestowed upon this work at the expense of the regular employment; but it rather serves to fill up the leisure half-hours of the morning and the evening, which are amply remunerated by the recreation and pleasure it affords.

Neighbor B., possessing ample means, has also planted a choice collection of pear trees, among other fruits. But his mind is more occupied with his railroad and other *stocks* than with *pear stocks.* These trees occupy various positions, some in the untrenched garden, and others in the lawn in the midst of the grass. In the more favored situations in the garden, the trees have made considerable growth; the branches having never been pinched or cut back, their long arms now extend in every direction, and are swayed about by every wind that blows. The most of them, however, have made but little growth of wood, but set profusely with blossoms every spring; the fruit, knotty and dwarfed, is permitted to remain and ripen, over-taxing the vital powers of the trees until hardly a spark of life remains, and in a short time the most of them will entirely die out. This is the fate of more than half the dwarf and other pear trees that have been planted. Trees must be planted in good soil, and be as well cultivated as any garden crop, otherwise they yield nothing but disappointment to the proprietor.

Root-Pruning Trees.

It sometimes happens that trees continue to make a too rapid growth to near the close of the season, when the wood is not sufficiently matured to escape injury from frosts during the winter. Root pruning, if done at the right time and in a proper manner, will obviate this. I have twice had to resort to this measure to save a fine Downing Mulberry tree. The tree was planted in a rather too rich soil, and continued to make a late growth, and the following winter it was killed to within three feet of the ground, notwithstanding the branches were pinched back in September. The following year it again started vigorously and continued to grow until frost, although the branches had been stopped as before. Again it was winter-killed down to the last bud above the graft. The following spring it started with increased vigor, making a large growth. In order to check its growth and cause the wood to ripen, about midsummer I took the spade and cut all the roots to within twelve inches of the stem. The weather was extremely hot and dry; the branches immediately wilted so much that it appeared doubtful whether they would ever rise again. A bucket of water at the roots, and the top well sprinkled at night, and for a day or two shaded from the heat of the sun, revived the branches, but the growth was checked; and the wood ripened, and withstood the winter well. The present season it started again with renewed vigor; the spade has again been applied, causing slight wilting; the growth is checked, and the wood is ripening well.

It is not often that our common fruit trees require this kind of treatment, but there are others, and this mulberry is one of them, that require it when it happens to get on a too rich soil. After two or three years it grows less vigorously and matures its wood well, and is free from the danger of winter-killing.

The Concord Grape.

This grape has rather grown in favor among cultivators, as it has been extended over the country, and particularly in climates more mild than that in which it originated. It is a long jointed, strong grower, and will prosper under as much ill usage as any other variety. The quality of the fruit is equal, and in milder climates superior to the Isabella, but the bunches are not compact and well formed. During the present wet season the fruit has suffered severely by rot, far greater than any other among a dozen or more kinds, growing in the same garden. A dry, porous soil, not too rich, suits the Concord best.

Ichneumon Flies.

It is one of the wonderful provisions of a wise Creator, that the insect tribes that are most destructive to the crops of the farmer have their parasitic enemies. But for this, the garden fruits, the cereal grains, and other crops, would often be entirely destroyed by the various insects that prey upon them. From the minute wheat midge, the Hessian fly, the plant-louse, up to the huge tobacco-worm, all have their insect enemies. These belong to the Family Ichneumonidæ, which embrace many species. Of the operations of those that feed upon the smaller insects I have had no opportunity to observe, but those that prey upon the larger worms and caterpillars have been remarkably abundant and destructive the present season. Every year the large green worms that feed upon the grapevine leaves, and the tobacco-worms that also feed upon the potato and tomato vines, &c., may be seen with numerous little cocoons attached endwise to their backs. These are produced by the little insects, after having passed the larvæ state within the worm, where they feed upon its juices, and thus exhausting and eventually killing it. The parent of these little insects is called the Ichneumon-fly. It deposits its eggs, with great dexterity in the body of its victim, where they soon hatch into little worms, and when they have grown to full size come to the surface and pass to the chrysalis state, after having spun their minute cocoon. There is hardly a worm to be seen the present season upon the grapevines and tomato-vines, and many other plants, that has not become the victim of these little wasp-like flies. There are generally from fifteen to thirty eggs deposited in a single worm. The worm thus encumbered soon ceases to eat, and continues to linger until it finally dies about the time the little insects arrive at maturity. Those species that attack the smaller insects, like the Hessian fly and plant lice, are said never to deposit more than a single egg in an individual; more than this would fail to arrive at maturity, for want of sufficient sustenance. H. P. B.

CULTURE OF THE ONION

Eds. Co. Gent.—I herein give you our manner of raising onions on the Chester peat meadows. Our soil is a decomposed vegetable matter resting on a deep turf. We drain the land thoroughly, and add one load of upland soil to a square rod once, which answers for all time. This keeps the onions from burning out. We plow as soon in the spring as the ground will allow, which is about the first of March. We plow by back furrowing to the center of the lot. When we have made six rounds, rake down smoothly—then plow and rake in the same manner until done. We manure with well rotted horse manure or poudrette, and put on after the second weeding fifty bushels of wood ashes to the acre, just before a rain if we can. After the ground is raked down we make a marker like a common rake, only larger, of course, setting the teeth 14 to 16 inches apart. We draw a line across the field and let the outside tooth of the marker follow the line, which gives us a straight row. After the first time across we let the outside tooth run in the mark last made.

We procure our seed at Wethersfield because we have always found it pure. We sow about four pounds of seed to the acre. We then roll the ground. The best seed drill used we get at Wethersfield—the price $10. It is a sower and cultivator. W. B. King. *Orange Co., N. Y.*

Selecting Seed Corn.

It is a common practice with farmers to select corn from their cribs in the spring of the year for seed, and as a general thing one-third at least fails to germinate. Corn that is exposed to the weather is frequently injured from dampness. The proper time to select seed corn is in the fall, say in October. Go through the field and select the ears that are sound and ripe, tie the husks together, and hang it up in a dry place until it is thoroughly dry; then put it in barrels or boxes where it is not exposed to the weather, and you will have sound corn in the spring.

20th Indiana Reg. HENRY E. OLINGER.

BULLARD'S HAY-TEDDER.

Having seen several notices of Bullard's Hay Tedder in your paper, I will say what they are thought of here where they have been used longest. There is but one opinion among those who use those, and that is, that they are one of the most labor-saving machines yet invented for the farmer's use. Many say, that use both, that were they obliged to give up the mowing machine or the Hay-Tedder, it would be the former. I understand from Mr. Bullard, the inventor, that arrangements are made by which your State will be supplied next year, equal to any demand there may be. E. P. Haynes.

Worcester Co., Mass.

THE BLACKBERRY.

The introduction of the New Rochelle Blackberry has given an impetus to the cultivation of different varieties of this fruit, and it may lead to the discovery of some better kinds. The New Rochelle is a strong and vigorous grower, and bears abundant crops, but it is inferior in quality to many of the wild kinds growing in the fields and hedges; it must be fully or over ripe, to be passable. A search among the wild kinds in a good season like the present, would discover much better varieties. More than forty years ago, and before the cultivation of this fruit was thought of, my father, in gathering wild shrubs from the woods, brought home and planted half a dozen blackberry bushes. After they became established they bore abundant crops of the best fruit of that kind that I have ever since tasted. The berry was hardly as large round as the New Rochelle, but considerably longer. The plant was equally as strong a grower, and bore as profusely. The growth and productiveness, and the superior quality of the fruit, which was sweet and of the richest flavor, was considered by those who tasted it, to be the direct result of cultivation, and that any of the wild sorts, with the same treatment would be equal to it. It is hardly probable that this is the case. This was a chance variety of superior excellence, such as I hardly expect to see soon again. It would be a most valuable acquisition now, but the bushes have long since given place to a building, and the variety entirely lost. If a little effort was made by the curious in such matters, during the fruiting season, no doubt some superior varieties might be secured from the fields. H. P. B.

Remedy for Cramp in the Stomach.

As The Cultivator is intended to do good, and every reader is requested to transmit some experience, I respectfully ask space for the following receipt. I have used it, and cured my wife of the cramps in the stomach, and also relieved for a long time the wife of a friend of mine who took the cramps in her stomach shortly after giving birth to a child

The remedy is simply to take a common foot-tub and put enough warm water in it to cover nearly half the leg to the knee; put a good handful of table salt and a tablespoonful of mustard into the tub, and let it dissolve in the water; then put your feet into the water, cover your knees well with a blanket to keep the steam around your limbs, and keep the water as hot as you can bear it for fifteen or twenty minutes, and I assure any lady following up the above advice, of immediate relief, if not altogether cured. Jacob Fritz.

Walla Walla, Oregon.

Remedy for Ivy Poison.

Editors Co. Gent.—For the information and relief of your correspondent, W., say to him through the Gent., that if he will procure from the druggist or a physician, a solution of *corrosive sublimate*, and apply a little to the sores where he is poisoned, and no where else, as soon as they become watery, he will fear the Ivy no more. I speak from *certain* knowledge, and have the article on hand to use as occasion requires.

Great care should be taken in the use of the prescription, as it is a deadly poison. I have seen it used by persons poisoned with Ivy many a time, and it proved a certain and immediate cure. W. H. Benson. *Chautauqua Co., N. Y.*

DISCUSSIONS AT THE N. Y. STATE FAIR.

[Reported for the Country Gentleman.]

Mineral Manures.

Meetings for discussion were held every evening during the State Fair, in the City Hall at Utica, and, as usual, were well attended—many of the best farmers in the State being present. The subject selected for discussion the first evening (Tuesday) was:

"*The most economical method of supplying the surface soil with the mineral food of plants, whether by its direct application, by subsoiling, or by the plowing in of deep rooted plants.*"

The question to be restricted to those cases where the surface soil has been subject. for a period of at least fifteen years, to the ordinary methods of cultivation by a rotation of crops, and where the subsoil. whether of sedimentary or primary formation. is not below the surface of an average distance of over six feet. In all instances of such soil and subsoil adduced for illustration in the discussion, the same to be accurately described.

The Hon. A. B. Conger of Rockland Co., President of the Meetings, opened the discussion. He remarked that it was now well understood that land which had been under ordinary cultivation for fifteen or twenty years, was deficient in mineral plant-food—the crops removed from the land robbed the soil of mineral ingredients. Many soils that formerly produced good crops, now fail. It had been thought that the climate had changed, but agricultural chemistry had shown us that the soil had been robbed of the food of plants. It is thought that fifteen years of such cropping as is frequently adopted, would abstract so much of the food of plants that the soil would no longer give an adequate return for the labor bestowed in its cultivation.

It might excite some surprise that the question was restricted to a soil where the subsoil was not more than six feet below the surface. Many plants throw their roots to a greater distance than six feet, and bring up food from the subsoil. The Hon. Geo. Geddes had sent a clover plant to the Society's Rooms at Albany, that had a root four feet two inches in length. Lucern will throw its roots over thirty feet; rape over six feet—and many other plants send out roots to a much greater distance than is generally supposed. Now if the surface is deficient in mineral plant-food, and the subsoil is rich, subsoiling will allow the roots to penetrate this rich subsoil. The small fibrous roots will take up the mineral plant-food, and it will be deposited in the bulbs or larger roots near the surface; and when these are plowed under, the surface soil will be enriched for the following crops.

This is one way of furnishing the surface soil with mineral plant-food. There is another way—*purchasing mineral manures.* Wheat requires phosphoric acid. Farmers usually provide this in bones and American guano. The practical question is, whether it is more economical to purchase mineral manures, or to break up the subsoil and allow the roots of plants to penetrate it and bring up mineral food to the surface; and if the latter, the question will then arise whether to plow under these plants, or feed them to stock and return the manure. In growing wheat is it best to buy bones, or to subsoil and plow in the clover? He would call on Mr. Joseph Harris of the *Genesee Farmer*, for his views on the subject.

Mr. Harris said that he had received no intimation that this subject would be brought before the meeting, and he was not aware till an hour ago, that he had been selected to open the discussion. He was entirely unprepared to speak on the subject. Taking the question as it stood, and confining ourselves to the *mineral* food of plants, he had no hesitation in expressing the opinion that the most economical method would be to *purchase* mineral manures. The mineral food of plants consists essentially of eight ingredients—four acids and four alkalies, or alkaline earths. The former were phosphoric acid, sulphuric acid, silicic acid and chlorine; the latter, potash, soda, lime and magnesia. We could get phosphoric acid in bones or phosphatic guanos, such as Jarvis' or Baker's Island, which were exceedingly rich in phosphoric acid. Sulphuric acid, as well as lime, could be cheaply purchased in the form of plaster, (gypsum or sulphate of lime.) Chlorine, as well as soda, could be had from common salt, (chloride of sodium.) Silicic acid or *sand*, we need say nothing about. Four pounds of bones, or three pounds of Jarvis' or Baker's Island guano, contained phosphoric acid enough for a bushel of wheat. But will an addition of four pounds of bones to the soil, or three pounds of guano, give us an extra bushel of wheat? We all know it will not. All the *mineral matter* in a ton of barn-yard manure, could be purchasedfor 25 cents. But granting that we supply the soil with a sufficient quantity of *mineral* plant-food, is that all we need, to grow large crops? *It is not.* Mr. Lawes of England, has grown wheat from the same soil for twenty years in succession, and the *average* yield of the unmanured plot is 16¼ bushels. On another plot, supplied with an abundant supply of phosphates, potash and other *mineral* manures, the average yield was 18¼ bushels, or only an increase of two bushels per acre. While on another plot, where ammonia had been added to the minerals, the average yield was over 34 bushels per acre—or an increase over the minerals alone of 16 bushels per acre. Plants must have mineral manures, but these *alone* will not give us large crops. We need ammonia, and there is no practical and economical method of furnishing ammonia, that does not at the same time furnish all the mineral matter which the increase caused by the ammonia requires.

Solon Robinson.—Tell us how to get ammonia!

Joseph Harris.—From clover, peas, beans, &c. Consume them on the farm, and carefully preserve and return the manure to the soil. Feed more grain; straw will not make rich manure. Clover hay will make manure four times as rich as straw, and nearly twice as rich as that made from timothy hay. Peas afford manure twice as rich as corn. Oil-cake is even still better than peas and beans.

Solon Robinson said there were parties in New-York who bought up all the chandlers' greaves and shipped them to Europe. They paid $25 per ton for them. These greaves are rich in ammonia, and the British farmers seemed to appreciate their value.

The Hon. T. C. Peters of Genesee county, would ask Mr. Harris how we are to get ammonia where clover is not grown. There is only 19 per cent of land in the State where we grow wheat. In Duchess county, where 50 bushels of wheat per acre was once grown, the average now is only five bushels per acre! The farmers there are now growing rye. In the dairy districts, where farming is quite as profitable as in any other section of the State, but where clover is not grown, how are we to get ammonia?

Mr. Harris did not wish to be understood as saying that clover was the only crop that would furnish ammonia. He thought on solis where clover flourishes as well as it does in Western New-York, clover was the best crop that could be grown to enrich the land. But of course *grass* would also enrich the land when fed to cattle, and the manure carefully husbanded and returned to the soil; but he thought grass was not as good for this purpose as clover. He thought it quite probable that in the dairy districts, bone dust, or American guano, or superphosphate, might be used as a manure for grass land. But the great need was barn-yard manure of better quality. Farmers should feed more grain. He thought, too, that in the dairy districts irrigation might be practiced with advantage. He had seen many little streams running down the hill-sides, that might with a little engineering skill be turned on a portion of the grass land. This would give a heavy crop grass—and this would enable a farmer to keep more stock and make more manure, which could be used to enrich other portions of the farm.

Gen. Miller of Delaware Co., said there was land in his neighborhood that would not grow clover, and much that could not be plowed. Ashes are used with great benefit on grass-lands. He believed in barn-yard manures; but he also thought *mineral* manures were valuable. We do not take *time* into consideration. We apply ammonia and get a large crop for a year or two, but it acts merely as a stimulant. The soil is afterwards all the poorer for it. All the old grain growing regions of the world—except the valley of the Nile, which is kept up by the annual deposit from the water—are now sterile. They are exhausted. Scientific men tell us that there is a certain definite quantity of mineral plant-food in the soil, and if we keep taking it from the land, the time will come when we can no longer grow crops. We should return to the soil all the elements that we take from it. In no other way can we keep up its fertility.

Joseph Harris said there was one thing of which we might be certain—so long as we could grow clover, there was sufficient mineral matter in the soil to grow wheat. The first symptom of exhaustion would be manifested in the clover crop. There may be soils where clover will not grow, and it might be necessary to apply mineral manures to the soil; but even in this case it was a question whether we had not better use manures which furnish ammonia as well as mineral matter.

Luther H. Tucker of the *Country Gentleman*, said that though it was true that there is a definite amount of mineral matter in the soil, yet tables had been prepared by eminent chemists, showing that there was enough in most soils to last for thousands of years.

S. Walrath of St. Lawrence Co., believed in deep and thorough cultivation of the soil. He does not use mineral manures—does not think we need them. Underdraining and subsoiling *had doubled the crops* on his farm. He grows clover and roots. Formerly his land was infested with thistles, but in a few years after subsoiling, and good, clean culture between the rows of his root crops, they had disappeared. He makes all the manure he can—never sells any grain. Would rather buy a hundred bushels of grain than sell it.

The Rev. Mr. Loomis of Cayuga, alluded to the fact that many grave yards exhibit every symptom of poverty, while just outside the wall, where the land is under cultivation, the crops are good. He did not think we could *stimulate* the soil. Had no fears that our lands could be exhausted.

Mr. Walrath differed with many in regard to deep plowing. On his land very deep plowing was injurious, but *subsoiling* (that is, merely breaking up the hard-pan and loosening the soil without bringing it to the surface,) was very beneficial.

Luther H. Tucker asked if we do not get in barn-yard manure, just that *mixture* of ammonia and mineral matter that our crops needed? He had spent some time recently in a dairy district of this State, and he observed that those farmers succeeded best who paid most attention to top-dressing. One farmer in Chenango county had rented out half of his farm, and by the aid of top-dressing was enabled to raise more hay from the other half than he formerly raised from the whole. Many farmers let their barn-yard manure lie exposed to winds and rains till it was almost worthless; but others are paying more attention not only to making more and richer manure, but to its careful preservation. In some experiments made in Massachusetts on grass, where various kinds of manure were used, such as ashes, superphosphate, guano, &c., the land dressed with cow dung was the best,—at least, if not so the first year, it was so in the end. In some experiments made by Mr. Harris near Rochester, where various mineral manures and ammoniacal manures were used alone and combined, it was found that the *mixture* of the two together gave a greater increase of hay than the total increase obtained from the various plots where the ingredients were used separately. In other words, the plot dressed with manures that most nearly resembled the richest kind of barn-yard dung, gave the best results. If you feed high, you get better manure, and if you buy grain, so much the better. The President of the Society, who had a farm in Westchester county where he was carrying out many useful experiments, used bone-dust to bring up his land to a productive stand-point—to produce grass, and thus make manures; and the question is, whether such mineral manures can be used on land too poor to produce good crops of clover or grass, more economically than resorting to the slower process of subsoiling, &c.

Gen. Miller of Delaware county—Suppose we make all the manure that we can, shall we not still have to use bone dust, &c., to "keep the machinery running?"

Solon Robinson—The question is not whether barn-yard manure is good—we all acknowledge that—but how to get enough of it. He had for several years been trying to ascertain which is the best manure to purchase, but had not yet discovered. Does not know which is the best. Salt he knows is good. Five bushels has given him a ton of hay increase per acre. But it might not be useful on all soils—farmers should experiment with it for themselves. He uses 10 bushels per acre on old meadows and on clover, and it has a good effect. He has also raised excellent turnips on salted land. It is a question whether any man can afford to draw manure two miles—or whether he had not better buy concentrated manures.

Hon. T. C. Peters would make a suggestion in regard to this question. In all the "soft-water regions" of this State ashes were beneficial, and in the wheat regions plaster is beneficial. That settles two points. Taking the State through, he thinks that at present these two manures —ashes and plaster—are all that the generality of farmer can afford to use.

Mr. Gardner of Putnam county, alluded to the practice of Dr. Grant of Iona, in drawing large quantities of muck into his yards, and also large quantities of salt marsh grass, and treading them into manure. This manure he uses for his vineyards, and finds it excellent.

Solon Robinson—The manure from salt hay is not worth drawing out of the yard. When mixed with muck it is good; but the question is, whether feeding marsh hay is profitable, or whether it would not be more profitable to purchase animal manures to compost with the muck.

FIELD CULTURE OF BEANS.

Messrs. Editors—In the Co. Gent., number 8, vol. xxii, page 128, Mr. A. L. Wood inquires about the bush bean as a field crop, its culture, &c. Being a young farmer, I offer my experience for what it may be worth.

1st. Select some warm, dry, gravelly soil, that is in a good state of cultivation; plow it deep and fine; harrow it well, then mark out your rows.

If I plant the small Pea bean, I mark my rows 20 inches apart, with a marker that will mark five rows at a time. For larger varieties mark wider.

2d. Secure the best beans for seed. I am very particular to have the seed all of the same variety, for various reasons, viz., if one variety, the crop, when fixed up for market will have an uniform appearance as to size, which is very essential—2d, they will all ripen off at the same time, which will add much to their value for marketing—3d, if mixed, early and late beans of the same variety, it will be almost impossible to get them all secured in good market order.

Planting.—I use a bean planter, and plant in drills instead of hills, as I think they make a better crop. Usually use in planting an acre of small beans, 18 quarts of seed, which gives a good stock. Having finished planting, I take a good heavy roller, and roll all down smoothly, which I find is of very great advantage to the crop.

Cultivating.—You can use a common cultivator by taking out the back teeth, if it is so constructed that you cannot shut it up close. Be sure to stir all the soil around the beans, but be careful and do not hill them up, as it will be a damage to the crop, for this reason: beans that are hilled will almost always produce more or less black beans by the end of the pods drooping and entering the earth.

Time for Pulling.—I have found by experiment that the best time to pull beans is just as quick as the greatest portion of the pods have turned yellow, and before they are hard in the pods, and while the leaves are all on the straw. Beans pulled at this stage of maturing, will weigh heavier, be brighter and whiter, and you will sustain no loss by shelling while pulling, which they will do if over ripe and dry.

Mode of Securing.—Beans, after being pulled a few hours, should be well stacked up in the field to dry and cure. I stack my beans in the following way, viz.:—First I get straight stakes from 8 to 10 feet in length, trimmed off smooth and sharpened. I take an iron bar and make a a good deep hole, and stick the stake firmly up—take two pieces of old boads 2½ feet long, (or such a matter,) and two or three inches wide, and nail them crosswise the stake, 12 or 15 inches from the ground; add four other bits of short wood to the two nailed to the stake, and you have all the necessary material for securing one stack of beans in good order. Build the stack thus:—Place the roots close to the stake and form a circle on the platform, (and see that they do not touch the ground,) and be particular in building up the stack. Press them down snug and tight, so they will not settle down from the finishing off point. To make your stacks in good shape, as you draw towards the top, place the bean straw more oblique around the stake, and the last added should be placed nearly perpendicular and well pressed down, and securely tied to the stake. If well stacked and pulled in season with leaves all on, they will come out in fine order. I have had stacks of beans done up in this way stand out for weeks in rainy damp weather, and take no damage. It is folly to stack up beans unless the leaves are on the straw, for they will not stand the test of bad wet weather. The leaves dry down, and being on the outside of the stacks, will make a covering next best to canvass for turning off water. F. *Grand Isle Co., Vt.*

WEANING LAMBS.

Eds. Co. Gent.—Although other subjects have received proper attention from your numerous correspondents, the subject of weaning lambs, seems to have escaped their notice. The cause of this neglect is doubtless owing to the inferiority of the subject as viewed by them, but when properly considered, is a subject which should arrest the attention of every sheep-breeder. Being dependent upon them to supply the deficiency occasioned by the sale and death of older sheep, it behooves us to look well to their interests and well being. It is impossible to give a flock of lambs the care and attention their feeble natures demand, if kept with the ewes until winter, without bestowing needless care upon the ewes. The time for separating the lamb from its dam, varies, according to the age of the lamb, which should be about four and a half months old. But the difference in the age of lambs dropped in the spring, is so slight that they might all be taken away at one time without injury to the lamb. I practice placing lambs after weaning, upon somewhat better feed, in order to compensate for the loss of the mother's milk, and my experience goes to prove that a little grain, judiciously fed, will not depreciate the value, nor injure the external appearance of the animal. It may be regarded by some as a difficult task to teach a lot of young lambs to eat grain, and some practice putting older sheep in the same inclosure, to teach them to eat, and come at the call; but all this is unnecessary if your lambs have been properly trained. As a general rule the lamb will possess the peculiar characteristics, and a disposition much like that of its mother, and if we have a flock of ewes that are tame, we may expect the lambs will be the same, if we keep them so by frequenting their enclosure, and forming an intimate acquaintance with the flock. Then, if your lambs are by themselves, they will not flee from your presence, as from the presence of a wolf, but on the contrary will rush toward you with an expressive look which seems to say, "give me some oats." A little caution is necessary at first, lest some of the tamer ones should eat too much. To obviate this difficulty, I practice feeding at first, only a sufficient amount for two or three, gradually increasing the amount as their confidence in me increases, and after feeding a few times, it is with difficulty that the grain can be placed in the trough, so great is their eagerness to obtain it. Lambs will thrive much better if taken from the ewes and weaned, than if the weaning is left discretionary with them, as it throws them at once upon their resources for subsistence, whereas, in case they are left with the ewes, they depend upon the milk, which, from its small amount, does them little, if any good, and the benefit derived is more than counterbalanced by the effort put forth to obtain it. If lambs are weaned, and taught to eat grain, as they should be, before winter sets in, they are in a much better condition to be brought into winter quarters, having acquired a habit of self-dependence for food, and being thoroughly skilled in the art of eating grain—two essential requirements for their physical development. The ewes, also, are in a much better condition for winter, as they gain rapidly in flesh as soon as the lambs cease annoying them by their constant efforts to suck. The ewes will shear from one-fourth to one-half a pound more per head, than if the lambs were left with them, as no time would be left for them to recruit. This additional quantity of wool might induce some to try the experiment, as farmers are quite apt to look after their pecuniary interests in preference to the comfort of their domestic animals.

Wayne County, N. Y. W. F. BAGGERLY

AGRICULTURAL EDUCATION.

Eds. Co. Gent.—Congress having made liberal grants to each of the States to endow Agricultural Colleges, it becomes a matter of interest to inquire what kind of institution an agricultural college ought to be.

If an agricultural college is to be a college for the purpose of teaching agriculture, it must fail; because agriculture is neither a science nor an art, but a handicraft or trade. As well establish colleges to teach shoe-making, or house-painting, or cotton-spinning, as to teach agriculture. Scientific agriculture, as it is called, cannot be said to exist as a science. It is aimed at and hoped for, but until analytical chemistry has been carried to a much greater perfection than at present, it must continue to be among the things hoped for, and not one of the things to be taught in colleges. Analytical chemistry discovers no difference between the components of cotton and sugar. Even in the common analysis of water, one of the most eminent chemists of New-England now confesses that the method hitherto pursued has been all wrong. If scientific agriculture is based upon the idea that by a knowledge of the component parts of vegetable products, added to a knowledge of the component parts of soils and manures, a given vegetable product may be obtained, very much as a cook makes a pudding by compounding the articles according to her receipt, the idea may be a very pleasing one, but while the fact is that chemists are as yet able to analyze vegetable products only in the rudest and most elementary manner, the idea cannot be carried into practice. What good farmer ever derived any benefit from an analysis of the soil? Is it not admitted that chemists can detect no difference between some of the most fertile and some of the most barren? Something may be taught of botany and the physiology of plants, but if agricultural colleges are to graduate a parcel of young men with a smattering of chemistry, a touch of botany, and an inkling of vegetable physiology, who think themselves good farmers, agricultural colleges will be a nuisance, because they will increase the great defect of American education, superficial knowledge. Scientific agriculture stands to-day with phrenology, and biology and magnetism. It is an undeveloped theory, not a science. Of practical sciences those only can be taught which admit of accumulated knowledge of facts leading to theories, which again are proved by the facts. But the known facts of agriculture are of the simplest kind, and discovered themselves for the most part while Adam delved. The theories of scientific agriculture are not yet proved by the facts.

Agricultural colleges then must simply be high schools for farmers. What makes a good farmer? The same qualities which make a good mechanic or man of business—intelligence, judgment, and industry. Can a school teach these to its pupils? To a certain extent, and indirectly, it can; but as it is the object of all schools to do so, your object and means will be the same as those of other good schools. If you wish to teach young farmers to know when they know a thing, and when they do not, you will not put them through a course of agricultural chemistry, for the result would probably be a persuasion that they knew something of that of which they knew nothing at all.

If then the noble endowments of Congress are to result in anything but a delusion and a snare, let those who are to direct the organization of these colleges pitch their profession low, and the results will be higher. If the colleges turn out well drilled lads, thoroughly grounded in an English education, knowing something of surveying, book-keeping, and mechanics, with such lessons in farming as they may learn by example and practice on a good farm, it will be well. Such boys will have a better education than George Washington. But if they graduate youths who think they know something of vegetable physiology, agricultural chemistry, and the theories of Liebig, they will merely produce a considerable number of badly educated men, who are worse than uneducated men, because they use their common sense less, and are more conceited. D.

HOW TO KEEP SWEET POTATOES.

Eds. Co. Gent.—I noticed some time since in your paper, an inquiry, "How to keep Sweet Potatoes." I will endeavor to give the mode practiced in this, the heaviest sweet potato growing county in the Union. When it is desired to keep but a few, barrels or dry-goods boxes are used. Place 3 by 4 pieces upon the floor, set the box upon them, a few *dry* leaves in the bottom of the box, pour in the potatoes, which should be exposed to air only long enough to dry off outside moisture, and all cut or eaten ones taken out. When the box is full, put a few dry leaves on top, cover loosely with the lid, leaving spaces for the moisture to escape. Place another box on top of it, and proceed to fill in the same way. The potatoes should be put at once where they are to remain—not left three or four days and then moved.

If the desire is to keep a quantity, houses are built of any desirable size, say 30 by 36 feet, of frame, two stories high, brick paned, and plastered—if a very dry situation, a cellar under—the floors not extending out to the walls by four inches—place 3 by 4 pieces against the walls of each story; board up to them 5 or 6 feet high; put dry leaves upon the floors, and then pour the potatoes upon them to the depth of about five feet, and cover over with dry leaves or straw. It is best to have loose boards the whole length of the room to put up to make bins 4 or 5 feet wide, for convenience in putting in and taking out. The lowest story that is used, must have dead air spaces under the potatoes—4 by 5 pieces laid down, and loose boards laid on them, on which the potatoes must be put.

The cellar will not keep them well unless very dry. While the house is filling, the door and windows must be kept open and the fire going. As soon as placed in the house the potatoes will commence "sweating," when every effort must be made to keep them well ventilated and dry. After the "sweating process" has gone through with, close the windows and shutters, except one window down a little for ventilation, and keep dark.

The stove must be placed in the lowest story used; the heat will flow through the dead air spaces between the walls and the potatoes, so that the upper rooms will be warmer than the lower. The heat should be kept at about 60 degrees.

Dig the potatoes before touched with frost, although a slight frost to kill leaves will not hurt. Potatoes to keep well, should be grown upon a dry land. The chief sources of success are—ventilate well while sweating, keep regular heat, and exclude air and light.

If your correspondent desires to keep but a few for family use, any room in which the temperature is not allowed to fall below 40 deg. will answer, although there will be some smell from them, especially if they do not keep well. J. G. W. *Gloucester Co., N. J., Sept. 7.*

THE CULTIVATOR.

ALBANY, N. Y., OCTOBER, 1863.

☞ In pursuance of appointments previously made, we attended last week the Exhibitions of the Town Society of Gouverneur, St. Lawrence Co., and of Ellisburgh, Adams and Henderson, at Belleville, Jefferson Co.

Reaching Gouverneur Thursday morning, our first hour was devoted to a drive with Mr. Treasurer NORTON, about that thriving and pleasant village, behind one of those spirited and active "Black Hawks" of which so many have been bred in this excellent horse-growing region. Judge DODGE, President of the Society, was absent, but we passed through his neat and well shaded grounds,—which, like those of Messrs. ANTHONY and MILLER, the street in which Mr. NORTON himself resides, and one or two other localities, are attractive features in the place. On visiting the Show grounds, which occupy a central position, we found a large attendance present, and a show of great variety for the Agricultural Society of a single township. There were Short-Horns, Devons, and Ayrshires, or their grades, shown respectively by Geo. Lockie, Peleg Chamberlain, and A. Coolidge, Antwerp, in the first, Mr. G. Norton in the second, and Robert Dodds, C. G. Carpenter, and W. A. Paul, Rossie, in the third. The last named gentleman showed an Ayrshire cow which bore her first calf when only 1 yr. and 9 mos. old. Mr. Lockie was also an exhibitor of Sheep, and other entries in this department were made by Henry Haskins and Jas. Rutherford, including South-Down and Long-Wooled grades. The exhibition of Cheese, as might be expected, was large and good, including ten or fifteen exhibitors, among whom were Messrs. Francis Farmer, E. S. Smith, and L. J. Haile; Butter was shown by Wm. Sudds, Horace Parsons, Almond Smith, and others—Mr. Sudds also contributing Vegetables. A. P. Killmore showed a fine assortment of Potatoes, and G. G. Hilts a beautiful sample of black-eyed peas. Some very handsome Maple Sugar came from T. W. Vanderzee, C. G. Carpenter, Richard Parsons, and others whose names we did not learn, while preserves, flowers, etc., from Mrs. Crane, Miss Dodge, Mrs. Parker, and other ladies, added to the attractions of the building devoted to floral and miscellaneous purposes, which had been very tastefully adorned for the purpose at no little labor. A jet of water opposite the entrance produced a very pretty effect.

Messrs. Litchfield and Moore of Gouverneur, exhibited samples of a Scotch plow they make, which is quite popular in that vicinity, and looks as though it might do good work—also a sugar arch highly commended by those who have used it. There was to be a plowing match the following day which we did not see. The turn-out of Horses we understood to be good. This Society has now held its exhibitions five years, and we were glad to learn a most encouraging advance had been effected during that time, mainly prompted by its shows, in the character of the live stock of the Town as well as in Agricultural improvement generally. The day was a charming one, and the success of the Fair, we presume, as great as ever before.

On Friday we proceeded to Bellville, under less favorable skies, but fortunately just before the time of the address the clouds broke away, and the afternoon was pleasanter. The stock had all left the ground except the horses, of which there was a very large and good exhibition. This society has one of the pleasantest enclosures for its shows we have seen—the ground being well adapted for the purpose, and shaded along one side by a grove, which affords to both speaker and audience a delightful shelter. The officers of the society are DANIEL GREENE, President; T. O. Whitney and Sauford S. Thomas, Vice Presidents; V. C. Warriner, Secretary, and Col. C. Littlefield, Treasurer.

The general results of the season have been gratifying, both in St. Lawrence and Jefferson—although in the former some injury has been experienced from drouth. Jefferson county seems to have enjoyed a happy medium between the drier weather to the northward, and the frequent and annoying rains which impeded the operations of the farm to the south and east.

Arriving at Utica we found the preparations of the State Fair more nearly complete than we think we have ever before known them at the same time. Under the tireless energy of JOHN BUTTERFIELD, Esq., neither scarcity of labor nor difficulties of getting lumber have operated to retard or diminish the structures on the grounds—and they now present an appearance, from the Society's offices in front, to the stalls and pens in the rear, unsurpassed in in the history of the Society's exhibitions, and which must prove a pleasant and encouraging surprise to the thousands whom we hope to meet there the present week from all other parts of the State. L. H. T.

THE CROPS IN GREAT BRITAIN.—At last advices the harvest in Great Britain was well advanced, and the London Agricultural Gazette had published the returns obtained from its correspondents in all parts of that country. These returns are favorable, though not extravagantly large, for the crops in England, which, taken all in all, appear to be better than they have been for many years past. In wheat, especially, the yield has been extremely satisfactory, being in almost all cases—and the returns printed by our contemporary number hundreds—above average. There is every prospect, too, that the bounteous harvest will be got under roof in a satisfactory condition. Indeed, in many of the southern counties of England the crop is already safe. Barley and oats, though not affording ground for such flattering accounts, are still very good, both coming up to average. The late sown oats and barley, however, are deficient in some quarters, owing to the early summer drought. Beans and peas are generally good, but in the southern and south-eastern counties of England the former are not so strong. Root crops have been delayed in growth, for want of rain; and hay, through a like deficiency, proved a light crop, but it was well secured. Potato fields are almost all looking well, no disease being apparent, save in a few districts in Dorsetshire and Cornwall.

A couple of dozens of returns from about fifteen counties in Scotland speak of a somewhat varying condition of prospects. Wheat is generally about an average, rather above it in Fife and the Lothians. Oats are nowhere reported above, and in several counties considerably short of an average. Altogether, says the Scottish Farmer, in commenting on the returns referred to, "farmers have reason to be thankful that, if the harvest is not an overflowingly bountiful one, it is at least one sufficiently good to stave off the ruinous consequences that must have ensued to many had this season been as bad as last."

☞ Through seasons of rain and sunshine, of party strife or general quiet, of war or peace, the Agricultural Society of the State of New-York has now held its Autumn Meetings with varying success, but with undiminished interest, for a period of more than twenty years. Now one feature and now another, in its Exhibitions, has shown especial prominence; the attendance has sometimes been limited and sometimes very large; but, through all these years, the main object of the Society, the promotion of the Agriculture of the State,—particularly the improvement of its Domestic Animals, the increased perfection of its Implements and Machinery, the establishment of a higher standard in Horticulture—has been steadily adhered to; Farmers competing for its prizes or inspecting the progress shown in its exhibitions, feel that this purpose has never changed, and that the good resulting from its efforts, is evident, not less in the Show Grounds of every County and Local Society through the State, than in its own larger enclosure. And, in noting the occurrence of another "State Fair," attended probably by from forty to fifty thousand of our farmers and citizens, we look back upon a history which, as a whole, need shrink from comparison with that of no other association, voluntary in its nature, whether devoted to Agriculture, or Science, or the useful Arts,—either in this or other countries. This history, too, is one in which the State pride, as well as the personal interests, of our farmers is every year more and more involved; and the Rochester Meeting in 1862, amidst the constant clouds of an "equinoctial" week, and the Utica Meeting just closed, with its three days of clear blue sky and one of storm, have both proved that the prolonged continuance and all-engrossing nature of our great struggle to uphold the Republic, have not lessened the earnestness of our efforts to advance the great interest that has been our mainstay at home and abroad during the past three years, even more than at any former time since our government was founded.

The Exhibition at Utica, in some of its details, was less extensive than has frequently been the case. There were many causes conspiring to produce this effect, to which we need not allude at length. But in other respects—especially in the display of Agricultural Implements, which constituted its redeeming feature—it would compare well with any of its predecessors. In Live Stock, the Horses moreover, and particularly the horses of all-work, were probably never excelled. Of Cattle, the exhibition was rather a good, than a large one; the chief breeds were fairly represented, Short-Horns taking the lead very considerably; of Sheep, the remarkable display the year before, would have made anything less than an extraordinary turn-out, now, seem small in the comparison, but in the Fine-Wooled classes, the show was good, and the Middle and Long-Wooled pens included some very fine animals; of Swine, the Large breeds held their own, but the Small breeds staid at home. The Fruit and Floral tables were well filled. The Evening Discussions were well attended, and, one evening, absolutely crowded; and while less pointed in their results, and therefore less satisfactory in the perusal, and eliciting perhaps less information of permanent value, than may have once or twice occurred, were still listened to with attention, and will be productive of good.

The receipts show the attendance of large numbers, but were undoubtedly lessened from the fact that the ordinary burden of railway travel is this year so large as to tax the facilities of the roads almost to their full capacity, and consequently to reduce their power to accommodate the extra numbers called out by the State Fair. Hence we were continually hearing of crowds left behind at the various way stations in both directions from Utica. In former years, before the *through travel* became the great object of our railways, more was done in running extra trains and reducing fares, to draw out a full attendance, than is the case now; and while the receipts at Utica in 1852 were $8,125 against something over $11,000 this year, the price of admission then charged was only one-half the rate of the past eight or ten years, so that the number of tickets then sold must have been in fact considerably larger than now. We subjoin a statement of receipts since the present Treasurer has been in office:

PLACE.	YEAR.	AMOUNT.
Syracuse,	1858,	$10,806.28
Albany,	1859,	18,111.33
Elmira,	1860,	9,041.70
Watertown,	1861,	7,899.90
Rochester,	1862,	11,271.45
Utica,	1863,	11,347.78

In our notices of the Fair Grounds already given, we mentioned the credit due to John Butterfield, Esq , for the efforts to which, in a great degree, the success of the present exhibition is to be ascribed. The buildings and fitting up of the grounds throughout, were all that could be desired, and received unlimited commendation. At a collation given by the Mayor and Common Council of the City, to the President and Executive Board of the Society on Thursday evening, these efforts were duly acknowledged, and Mr. Butterfield's recital, in response, of some of his experiences on this and other occasions, were received with great enthusiasm.

On pages 204 and 205 will be found the full Report of the proceedings of the week, and the Premiums awarded, so far as we have room to publish them in the present number. The remainder must be deferred until our next impression, including the Horticultural Department of the Exhibition. We also present this week a condensed report of the First Evening's Discussions, which will be succeeded hereafter by those of the following evenings. In the absence of our associate, Mr. Thomas, whose ill-health prevented his attendance, we were fortunate in being able to secure the assistance of our friend Joseph Harris, Esq., of the Genesee Farmer, in the preparation of these reports, for which our thanks should be tendered in connection with their publication.

As intimated above, the weather of Tuesday, Wednesday and Thursday was as bright as could have been desired; on Friday there was a drenching rain, and the grounds were almost absolutely deserted. Those who were present, however, and the number included many of the officers of the society, and other good judges, were greatly interested in a prolonged and careful trial of Sanford & Mallory's Flax Dressing Machine, which deserves especial mention here from the promise it affords of enabling any farmer to get his flax crop ready for market, independent of outside assistance. Mr. John Stanton Gould, Chairman of the Committee, informs us that the following experiments were tried:

Flax Thoroughly Retted by the Dew Process.

Breaking—20 pounds 1 ounce straw were broken by the machine in 3 minutes, 50 seconds—weight of product, 9 pounds. Scutching—roughed in 6 minutes, 10 seconds—finished in 2 minutes, 20 seconds—weight of final product, 4 pounds, 14 ounces.

Flax Half Retted by the Dew Process.

Breaking—10 pounds straw were broken in 2 minutes, 50 seconds—weight of product, 5 pounds. Scutching -roughed in 7 minutes, 15 seconds—finished in 2 minutes, 5 seconds—weight of final product, 2 pounds 3 ounces.

Flax Unretted as it came from the Field.

Breaking—10 pounds 3 ounces straw were broken in 2 minutes, 50 seconds—weight. 6 pounds 3 ounces. Scutching—roughed in 4 minutes, 10 seconds—finished in 1 minute, 50 seconds—weight of final product, 2 pounds.

The Capacity of the Sanford & Mallory Machines.

This was thoroughly tested, and found to be equal to breaking 2,500 lbs. per day in one breaking machine, with two hands and about three horse-power. Two scutching machines are required to scutch the product of the breaking machine—each of them employing one horse-power and two hands.

The success of these trials leads us to hope that new light is dawning upon the manufacture of Flax, and the full report of the committee, of which Mr. Gould is chairman, will be looked for with interest.

☞ We are indebted to L. F. Allen, Esq., Editor of the American Herd Book, for volume sixth of that work, just from the press. It is a book of 472 pages, containing about 2,500 pedigrees, while Mr. A. computes that if the degree of attention usual before the breaking out of the war, had been paid to the entries of stock, the number of pedigrees would probably have been fully 4,000.

The opinion has so often been expressed in these columns, that it is scarcely necessary to repeat it here, of the importance of this work to American breeders of Short-Horn Cattle. It is to be regreted that they have not shown as much interest as heretofore in recording in it the progress of their herds; but this, we believe, to be only a temporary lull. It is, moreover, occasioned mainly by the disturbed condition of the great Short-Horn State of Kentucky, and by some diminution in the demand and reduction in the prices of pure-bred cattle at the West; for in this State and throughout the East generally, a gratifying advance is evident in the entries made, and in the number of breeders.

It is curious to note, by the way, how traces of the present war and its heroes, reach every pursuit among us, even to the naming of the cattle we breed. Thus, opening accidentally to the long list of Generals whose names, either with or without this military title, have been taken to adorn the register of our Short-Horn bulls, we find seven namesakes for Roscerans, five for McClellan, four each for Grant, Burnside and Hooker, three for Halleck, two each for Pope and Butler, one each for Buel, Lyon, Siegel, Fremont, Reno and others, and among the chieftains on the other side, three "Stonewall Jacksons" and two "Stonewalls," and one each "Beauregard" and "Morgan." If the last mentioned individual had not been unfortunately interrupted during his northern tour, this summer, it would doubtless have afforded him great pleasure to carry back this evidence of Northern appreciation for his efforts in behalf of border agriculture. The typography of the present volume is all that could be desired, and the drawings on stone, by Mr. Page, numbering eight or ten, as well executed as ever.

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Flax and Hemp.—The last Congress having appropriated $20,000 to be expended in testing the practicability of the introduction of flax and hemp as a substitute for cotton, the Commissioner of Agriculture has appointed Hon. J. Morehead, of Pittsburg, Penn.; Dr. Jno. A. Warder, of Cincinnati, and W. M. Bailey, of Providence, R. I., a committee to consider and report on the subject.

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Periodicals.—The *Colonial Farmer* is the title of a weekly agricultural and miscellaneous journal, recently commenced at Fredericton, N. B. If the farmers of the Province give it proper aid by their contributions to its pages, and by their subscriptions, it will not fail to prove useful to them. C. S. Lugrin, editor and publisher.

The Rural Advertiser is the title of a monthly 8-page quarto, issued by Paschall Morris, the well-kown implement and seed dealer, Philadelphia, at 25 cents a year.

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Good Products.—I would like to give you a little of my experience on various topics included in husbandry. Fisrt, I would mention a plum tree which we placed in our small orchard two years ago. It now measures 1¼ inches through at the ground, from which we gathered a a few days since, four quarts of nice plums. We also raised a parsnip measuring three feet eight inches in length, and potatoes weighing between 3 and 4 lbs. each, too numerous to mention. H. Baker. *Brady, Mich.*

☞ A statement of the movements of the Wool Trade in England, comprising the Imports into and Exports from that country for the first six months of the present year, as compared with the corresponding period in the years 1861 and 1862, is published in the Mark Lane Express for August 10th. It shows that a much larger quantity of Wool has been brought into the United States for two years past, than probably many of our readers would suppose. We give the figures below:

Shipments of Wool from England to the United States for the first Six Months of the years 1861, 1862 *and* 1863.

	1861.	1862.	1863.
Colonial grown Wool, ...	55,119 lbs.	1,431,250 lbs.	2,289,660 lbs.
Foreign grown Wool, ...	72,190	1,793,890	5,587,848
English grown Wool, ...	39.721	813,941	571.668
Totals, ...	167,030	4,039,081	8,449,176

The English market for wool is now said to be "decidedly healthy; but the great abundance of wool operates against any advance in the quotations."

◆

Saratoga.—The Twenty-Third Annual Fair of Saratoga Co. was held at Saratoga Springs from the 1st to the 4th inst., and although not equal to those we have held, still it was a success, considering that we did not conclude to have one until after the 1st Aug., as the grounds were let for a soldiers' encampment, and as it was we had to give up the Floral Department. The receipts were $1,552.50; paid in premiums, $747.

Hons. Reverdy Johnson and A. B. Conger visited the grounds on Thursday, and as the orator appointed was sick, they accepted an invitation from the Society to address them on Friday. Mr. Johnson spoke on the state of the country, and Mr. Conger on agricultural topics; they were attentively listened to by all that could hear their voices. James Thompson, *Cor. Sec'y.*

Rose Hill, Sept. 11.

◆

New-Books.—C. M. Saxton, 25 Park Row, New-York, has issued in very neat style the Essay on *Fine Wool Sheep Husbandry*, by Henry S. Randall, L. L. D., read before the N. Y. State Agricultural Society, Feb. 12th, 1862, with an Appendix containing valuable statistics in reference to wool culture, imports, prices of fine wool from 1840 to Aug. 1, 1863, etc. Price by mail postpaid, 75 cents.

◆

Ag. Statistics.—The following I enclose as samples o the agricultural statistics collected in school district No. 2, Hartford, Washington Co., N. Y., by the undersigned:

Indian corn, ...	157 acres.	6,481 bushels.	41 average.
Potatoes, ...	127 do.	14,178 do.	112 do.
Peas, ...	44 do.	890 do.	20 do.
Flax, ...	11 do.	23,400 lbs. straw.	2,127 do.
Oats, ...	190 do.	5,320 bushels.	28 do.
No. of hogs killed, .	105 do.	26,980 pounds.	256 do.

No. of loads barn yard manure, ...	2,082
Avails poultry, ...	$411
No. of apple trees, ...	1,528
No. of bushels apples, ...	3,194
No. of bushels dried apples, ...	96
No. of rods drain, ...	2,573
No. of rods open ditch, ...	3.313

Grenville M. Ingalsbe.

◆

Proof against Sheep-Killing Dogs.—It is said that conclusive proof against sheep-killing dogs may often be had by examining their mouths. Small pieces of wool will be found between their teeth for several days after they have been on a foray. They are cunning enough to wash off marks of blood, but cannot pick their teeth so readily.

◆

Keep your garden clean. The long spell of mois weather has been a godsend to the weeds, making it necessary for gardeners to redouble their efforts to eradicate them.

STRAWBERRY CULTURE.

I wish to call attention to a mode of growing strawberries for those who grow in a small way for family use only. Prepare the ground well by deep plowing and pulverising well. With a one horse plow make small ridges 5 or 6 inches high, and about 3 or 3½ feet apart; set your plants on the apex of the ridges, and mulch heavily, sufficient to fill up the interval between the rows, so as to make it level; forest leaves are my favorite material for mulching, although straw, sorghum bagasse, spent tan, sawdust, or even cornstalks, will answer. The after culture consists in pulling out the weeds on the ridges occasionally, and cutting off the runners three or four times during the season. If it is desirable to increase the stock of plants, the runners will readily make very fine young plants on a mulching of leaves or straw partially rotted; the finest young plants I ever saw were grown in this way; stocky and well supplied with masses of long and fine fibrous roots. In this climate spring is by far the best and only proper time for transplanting.

The strawberry continues longer in bearing here than in the latitude of Chicago.

In growing strawberries largely for market the method of Mr. A. M. Purdy of Indiana, given in Co. Gent. for Aug. 6, is, in my opinion, an excellent one. We usually get three crops of berries from our plants before we plow them up, and I have no doubt but five or six good crops could be had by keeping the runners cut off, and cultivating thoroughly.

Merits of the Various Sorts.

Among some ten or more of the older well-known sorts which have been tested here, the Wilson stands preeminent as the best market sort, particularly as regards *productiveness* and *firmness* of berry; the latter quality being indispensable, as two-thirds of all the berries grown in Egypt are shipped to Chicago. Triomphe de Gand will bear handling, but gives us here but little more than half as many berries as Wilson, with same culture. Jenny Lind and Downer are both too soft to bear shipping well, neither do they yield as well as the Wilson.

Mr. S. E. Todd, in Co. Gent. for July 16, in speaking of Russell's Prolific, says, "I feel entirely safe in saying it is one hundred per cent. more productive than the far-famed Wilson." I think Mr. Todd was rather hasty in his conclusion regarding the comparative productiveness of the two sorts. Mr. Clapp, in his advertisement, speaks of having a plant of the Russell on which were counted 226 berries; this, of course, was one of his best plants, with best culture. Now I have seen many plants of the Wilson, as it is grown here, with from 200 to 260 berries on a single plant, and I doubt if there is any variety now known that will produce twice the *number* or *bulk* of berries than the Wilson as it grows here. To those who have not already a supply I would say, get some plants of Wilson's Albany, give them good culture, and my word for it, you will never regret the outlay. You can get plants of this valuable sort for 50 cent per 100, instead of $9. I can say for my part, that I have lost both time and money in sending for nearly every new variety of strawberry that I could hear of.

Will Mr. Russell, or Mr. Schuyler of Seneca Falls, answer as precisely as possible, through the Co. Gent., the following queries: How does Russell's Prolific compare with the Wilson as regards *firmness* of berry? What is the sex or sexuality of the Russell? Which of the two sorts commences sending out runners earliest in the season, and which makes the most young plants with the same culture? Will it bear the spring frosts after blossoming, without injury, as well as the Wilson? A. Babcock.

Union Co., Ill.

REMOVING ROCKS.

Eds. Co. Gent.—In your issue of August 13th, I notice an article copied from the Rural New-Yorker, on "Removing Rocks."

Perhaps I have disposed of more rocks lying on the surface of the ground, ten to one, than the person who wrote said article; at least I have cleared between fifty and sixty acres from boulders weighing from one-half a ton to twenty tons, and in places as many as twenty rocks to the acre, and think I ought to be able to speak from hard-wrought experience, for I have not hired Irishmen or ditchers to do the work, but with one strong-handed Yankee, a span of horses and myself, have worked it out.

I have dug under and sunk boulders, or as I used to say, "sold them;" but I have learned better. I can *blast, dig out, and draw off ten rocks on an average, where I can sink one, and the rocks are saved for fencing or building purposes.*

For a while I did my own *blasting*, but afterwards hired it done. I paid twenty-five cents a blast, and one blast is usually enough for a rock. Take a pick-axe and loosen the earth around the rock, put in the hole, charge and fire! and with a cant-hook, made on purpose, get under the pieces and throw them out; and then take another rock of equal size in the same soil and sink it, and see the difference.

I think, after said correspondent had sunk a rock in my orchard, measuring 28 feet long, 16 feet wide, and 8 feet above the ground, and perhaps more below, he would write no more articles on *sinking rocks*.

Springwater, N. Y. D. B. WAITE.

THE CURRANT WORM.

A writer in the Co. Gent. recommends three different remedies for the destruction of the worms so injurious to the currant and gooseberry, all of which are of doubtful efficacy; and it is a remarkable fact, that any horticulturist of the present day should not have met with the standard work of Dr. Harris, in which the most effectual application for this and many other insects injurious to vegetation, has been highly recommended and successfully practiced.

I allude to the whale oil soap, which, in some cases, I think is farther improved by the addition of tobacco. Fill a half barrel in which fish has been salted, with a strong suds, in which several pounds of the whale oil soap have been shaved down and dissolved by boiling with a pound of the tobacco called cut and dry. The tobacco leaves are to be strained out before using, to prevent them from obstructing the passage of the suds through the can or other instrument used. For the effective destruction of the slugs on the pear and cherry, strong suds without any addition, is all that is necessary, and is best applied by a common hand forcing pump of tin, with a fan-shaped piece of the same so adjusted at the nozzle as to scatter the stream in broad showers of spray on the leaves. For currants or other shrubbery, a common syringe with a similar scattering adjustment, will be the most convenient way of applying the suds. H. *Mifflin Co., Pa.*

Movements of Produce thus far for 1863.

The New-York Journal of Commerce publishes a statement of the movements of produce at the port of New-York up to September 1st this year, as compared with 1861 and 1862. We copy below the figures as to Breadstuffs, Provisions, and one or two other items. It will be seen that the Receipts show a falling off in flour and wheat, and a gain in oats and Indian corn. The receipts of oats for eight months have more than doubled upon the corresponding total for the last five years. In provisions there is an increase in pork, bacon, and lard, and a falling off in beef and butter, as compared with last year; but a large gain over any former year on record:

Receipts of Certain Articles of Domestic Produce at New-York during the first eight months of the year:

	1861.	1862.	1863.
Breadstuffs—			
Wheat flour, bbls.,	2,230,588	3,317,256	2,826,595
Corn meal, bbls.,	57,123	193,032	162,540
Wheat, bush.,	11,189,129	14,432,936	9,258,046
Rye, bush.,	406,884	789,594	311,430
Oats, bush.,	2,098,829	2,443,435	5,687,586
Barley, bush.,	659,386	795,421	485,718
Peas, bush.,	98,090	78,800	38,541
Corn, bush.,	8,243,007	9,030,934	10,393,219
Provisions—			
Pork, pkgs.,	77,160	289,433	384,098
Beef, pkgs.,	20,350	121,222	59,965
Cut meats, pkgs.,	67,998	272,432	427,834
Butter, pkgs.,	214,144	291,837	192,389
Cheese, pkgs.,	219,878	275,238	299,313
Lard, tcs. and bbls.,	68,446	310,059	361,334
Do. kegs,	28,673	71,225	34,651

The Exports of breadstuffs have been less in quantity than for the same period of last year, although still large, and swelling to a higher total in value on account of the increased price. In provisions, the most noticeable changes are the falling off in butter, (the total being less than two-thirds of the shipments of last year,) and the gain in cut-meats, even upon the large total shipped in 1862:

Exports from New-York to Foreign Ports of Certain Leading Articles of Domestic Produce for the first Eight Months of the Year:

	1861.	1862.	1863.
Breadstuffs—			
Wheat flour, bbls.,	1,712,131	2,132,968	1,701,358
Rye flour, bbls.,	8,911	6,156	4,385
Corn meal, bbls.,	74,261	99,645	94,760
Wheat, bush.,	13,763,792	13,654,417	10,830,752
Rye, bush.,	340,739	1,021,135	401,906
Oats, bush.,	143,864	39,943	113,147
Barley, bush.,	1,060	22,183	52,439
Peas, bush.,	100,678	93,484	73,200
Corn, bush.,	6,771,907	8,328,834	7,129,130
Candles, boxes,	54,861	96,669	86,901
Coal, tons,	18,287	62,001	32,436
Cotton, bales,	151,187	7,585	10,197
Hay, bales,	12,861	22 625	15,665
Hops, bales,	21,539	5,371	19,971
Oils, lard, galls.,	87,034	374,551	763,973
Linseed, galls.,	27,497	25,767	11,998
Provisions—			
Pork, bbls.,	69,262	136,482	131,332
Beef, bbls.,	20,571	21,083	28,592
Beef, tierces,	24,260	34,173	34,552
Cut meats, lbs.,	40,810,034	118,465,594	163,335,905
Butter, lbs.,	8,303,735	14,292,824	8,541,558
Cheese, lbs.,	16,484,188	20,555,493	21,017,300
Lard, lbs.,	30,385,422	93,603,780	92,586,027
Tallow, lbs.,	16,480,534	26,851,737	28,160,416
Tobacco, crude, pkgs.,	66,639	72,687	62,330
do. manf., lbs.,	2,730,043	562,389	1,955,733

"Opinions differ widely as to the prospective shipments for the remainder of the year. It appears to us to be a mere question of price. The harvests abroad are better than the average, and thus the consumers are much less dependent upon supplies from this country. Still, there will be a large deficiency in Great Britain to be made up, and this trade will come to us only in case that ours is the cheapest market. This will prevent any large increase in prices of breadstuffs during the year."

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☞ Mr. H. B. Sontag, near San Francisco, is going into tea-culture. He has put out one thousand plants, raised from seed obtained from China.

Inquiries and Answers.

HEN LICE.—My barn and stables have become badly infested with hen lice. Please what shall I do to get rid of them? Wm. Hunt. *Park Co., Ind.*, 8 *mo.* 19, 1863. [Whitewash the walls and boards of the stable with a thin wash of fresh and caustic lime—applying a second coat if necessary—if the lice infest the horses, mix a spoonful of powdered sulphur daily with the feed. Washing with a thin solution of tobacco water has been recommended, and is no doubt efficient. In extreme cases a wash of corrosive sublimate might be applied to the cracks of the building.]

FARMING.—Will you be kind enough, for the benefit of young farmers, to publish in your paper, the best method of carrying on a 50 or 100 acre farm—what crops to raise, and the number of acres to each—quantity and number of stock to keep, and other details? I think hundreds would be much benefitted. C. N. B. [So much depends upon the location, soil, and amount of labor which is to be, or can be performed on such a farm, that no answer of any possible value can be given to this inquiry. At the same time our correspondent may consult Mr. Thomas' Essay on Farm Management, published in vol. 2 *Rural Affairs*, (price $1,) to great advantage.]

CURING TOBACCO.—Will you inform me of the most practical way of curing one or two hundred stalks of tobacco, and oblige Nassau. [Will some one who has had experience in curing tobacco in a small way, please answer.]

GRAFTING THE MAPLE.—I have once or twice asked for information through The Cultivator and received replies. One query was whether the Sugar Maple could be readily multiplied by any known method of engrafting? The reply in substance, I think, was this—"that very likely it could but that there was no need of that, as it could be propagated well enough without." This answer amused me a little, but was not quite satisfactory. I would, therefore, now renew the question. Can the Sugar Maple be readily multiplied by any known process of engrafting? I have often engrafted and budded the apple, the pear, and other fruit trees successfully, but could never get bud or graft to succeed with the maple, though repeatedly attempted. With the elm I know it can be done, as I have decided it by experiment myself. I fear it cannot be done with the maple, but am by no means certain. I wish this thing to be decided beyond doubt, and then, if the answer proves in the affirmative, if life, health and faculties are continued, I will endeavor to suggest something more on the subject, as I think it may possibly lead to important consequences both individually and nationally. Elisha S. Fish. *Gilsum, N. H.*

BONE-DUST.—Will it pay to apply bone-dust to *light sandy soils?* I have 100 acres of such soil, too far from my barns to draw yard-manure, even if I had it to draw. Could I bring it into clover by an application of bone-dust or some other of the advertised fertilizers? S. Felt. *Jefferson Co, N. Y.* [This question can be determined only by experiment. The results vary with soil, locality, and other circumstances. If bone-dust can be had cheap, it will generally pay to apply. Our correspondent can procure some, and apply to a portion of his land, and measure and estimate the results]

SHEEP BARN.—Can you or any of your correspondents furnish a good plan for a sheep barn, (with yards attached,) that will contain from 500 to 1,000 sheep, and their winter food? I desire to build and would be glad to have the best and cheapest plan? P. [We hope some of our wool growers will answer this call.]

PURPLE EGG PLANT.—How do you distinguish when the fruit is of a proper age to cook? How should it be cooked? Canada. [In reply to this we copy the following from Buist's Kitchen Garden: "They are cut into thin slices and fried, and have a taste very similar to oysters. Others use them in stews and soups. They are fit for the kitchen when they attain the size of a goose egg, and are in use till they become nearly ripe, which is easily known by the seeds changing to a brown color. Many individuals are exceedingly fond of them, while others will not taste them in any form"]

HORSES.—I have two valuable horses that are continually rubbing their manes and tales, until about one-half the hair is gone. Can you or any of your correspondents tell what will stop it? H. *Milton, Ky.*

COTSWOLDS.—Can any one in Western New-York furnish good Cotswold rams? Several could be sold by advertising in your columns. P. *Belmont, N. Y.*

FOREST LEAVES.—Will you, through the columns of your paper, ask some of your friends how to preserve forest leaves their natural colors? I have tried varnish and gum arabic, but have not been able to succeed. POWHATAN.

IS COCKLE POISONOUS?—Will you or some of your numerous correspondents, please inform me through your paper, whether cockle is poisonous or not? The reason I inquire is this: I raised a piece of wheat last season which was about one-fourth cockle when thrashed. I then had some of it ground into flour, but when we came to eat it, it made us all sick, more or less. We then cleared the cockle out of the wheat and fed it to our poultry; but the next morning we found four hens and one turkey dead, and all the rest very sick. It took them two weeks to recover. One of my cats eat some of the dead poultry, and she died. I had also a cosset lamb that ate some of it, and he died.

Tioga Co. N. Y. W. C. SMITH.

TO BREEDERS.—In your answers to correspondents, would you kindly suggest some means of reducing an over-fat two year old Short-Horn heifer, so as to put her in proper condition for calving in December? She has been at grass all summer, and has received no other food. QUEBEC. [Will some of our correspondents please reply.]

ORCHARD GRASS.—I would thank you to inform me through your paper, as to the value of Orchard grass, either for hay or pasture. I am advised to sow it, as a means of getting rid of daisies, of which I have many on my farm and they are increasing, by being carted to the barns with the hay, and taken again to the fields in the manure. It is said that Orchard grass can be cut before the seed of the daisies ripen, and I am disposed to try it, but wish to know at what season of the year to sow it, and what quantity per acre, and if it requires rich land to make it take well, and if the hay is good for stock, &c. T. D. *Passaic, N. J.* [The Orchard grass is valuable for its earliness, for growing in the shade and in ground of moderate fertility. Being rather coarse it should be fed somewhat closely in order to prevent the formation of dry, hard stems; and for the same reason it should be cut earlier for hay than most grasses. It mixes well with red clover, both becoming fit for cutting about the same time. It may be sown early in autumn or early in spring, either alone or with grain crops; and its germination may be insured, and its early growth hastened, by spreading a dressing of old manure or compost over the ground and harrowing it well in the top soil before sowing. The seed being light and coarse, and weighing only twelve pounds to the bushel, two bushels per acre are recommended for a full seeding when sown alone, or in like proportion when mixed. We have observed that a dense growth of clover had a strong tendency to smother out the ox eye daisy, and Orchard grass, thickly sown, would doubtless produce a similar result, besides the preventive effect mentioned by our correspondent.]

DISEASE OF GRAPES.—What is the matter with my grapes? A large portion of them are bursting open, as shown by a few skins herewith enclosed. They are all cut or bursted in precisely the same way—that is, two lines at right angles to each other, thus ⊥. Thus far the Delawares are the only ones affected, but this may be because no others are so nearly ripe. W. M. D. *Circleville, Ohio, Aug.*, 1863. [The specimen sent, being only dried skins when they arrived, but little could be seen of their original appearance. We have not met with this disease in our experience, and call upon grape-growers for further information.]

STRAWBERRIES DESTROYED BY GRUBS.—The white grub has cut off my strawberries this summer. Cannot something be done to destroy this pest? J. B. S. [The best way is to dig out the grubs wherever their marks are visible and kill them. We have adopted this mode with much success, on some other crops, by offering boys so much a dozen for all they would catch, (in tin pails) and they soon cleared the plantation. It became quite an exciting game with them who should have the last grub.

HORSE POWERS.—Whose make of two-horse railway power, with thresher and cleaner, would you recommend me to purchase? W. J. B. [Either of those which are or have been advertised in this paper. They are all good.]

DISEASE OF APPLE TREES.—I am trying to raise some apple trees, and some of them have died this summer. What will prevent them from decaying? They first die at or near the ground. The bark slips off about a foot up from the ground, where the wood appears to be already rotten, after which the leaves begin to turn yellow, then in a few weeks the whole tree dies. E. S. R. *Mellville, Dade Co., Mo.* [We are not confident that we can tell our correspondent how to prevent this difficulty. The trees already injured, are, of course, past recovery. We would recommend budding or stock grafting one or two feet above ground—the propagation of the hardiest sorts, such as Winesap, White Winter Pearmain, Oldenburgh, Autumn Strawberry, Fall Orange, Red Astrachan, Carolina Red June, Maiden's Blush, Fallawater, &c.; and to plant only on dry soil. As the disease may arise from the effects of winter, winter mulching, or banking up with earth, may prove useful. Training the trees with low heads would be advisable.]

SHEEP.—I would like to make the inquiry of some of my wool growing friends, which is the most profitable breed of sheep about which we read so much in your paper? I have but a small farm, and do not wish to keep but a few, and those of the best quality. H. BAKER. *Brady, Mich.*

HARVESTING CORN.

As the saving of the crop of corn depends a great deal on the manner it is harvested, it is important that the farmer should see that it is well secured against wind and rain while standing in the stook. The following is my method: Cut six rows of corn in each row of stooks, commencing by cutting up the two middle rows, until you have a large armful, which set up between the two rows cut; tie the tops with a stalk, and set it down as you would a sheaf in setting up a shock of wheat. This is the centre of the stook, and is *not* to be tied around a hill. Now cut up the other four rows, and as far ahead of the stook as is necessary to make a good size stook, taking care to set the stalks up straight, and to keep the stook round When sufficiently large, tie snugly around the top, (not too near,) with a good band of rye or flax straw, and you have a stook that will stand the wind, dry out well, and when pulled down to husk, will leave no stalks standing, as is the case when set up around a hill, or four hills, as some recommend. E. S. BARTLETT. *Kendaia, N. Y.*

GUANO.—Save your poultry droppings; gather it up and put it in a barrel with a sprinkling of plaster, and you will find it valuable next year about corn planting time. It is the strongest kind of manure, adding greatly to the productive energies of the soil.

FRENCH'S NEW SEEDLING STRAWBERRY.

The undersigned has now ready for delivery, plants of this season's growth of this superior new Seedling Strawberry, either by the dozen or hundred.

It has been fully tested and proved to have those important requisites of a first rate market and table fruit. 1st. Extreme earliness, being the first in appearance in our market. 2d. Large size. 3d. A very free grower. 4th. Great productiveness, being a hermaphrodite variety. 5th. Fine quality. 6th. Attractive appearance.

For combination of these advantages, French's New Seedling Strawberry is believed to surpass any variety now in the market. Small packages sent by mail, without extra charge.

Price, $1.50 Per Dozen; $8 Per Hundred.

PASCHALL MORRIS, Agricultural Warehouse
Sept. 17—wtf—m1t. 1,120 Market-St., Philadelphia.

FRUIT AND ORNAMENTAL TREES.

WILLIAM ADAIR,

Detroit, Michigan,

Offers for sale a large and varied assortment of TREES, SHRUBS, VINES AND PLANTS. Particular attention is invited to the stock of PEAR TREES, both STANDARD and DWARF, which are all worked on the best imported French Stocks. Fifty Thousand saleable trees on hand.

GRAPEVINES.

Concord, Hartford Prolific, Diana, Delaware, Rebecca, Anna, Isabella, Catawba, Creveling, Rogers' Hybrids (10 varieties.) The Adirondac can be supplied in limited quantity (one year old plants,) the others by the dozen, hundred and thousand. Also a good stock of foreign vines grown in pots for cultivation under glass.

CURRANTS.

Versaillaise, Cherry, White Grape, Red and White Dutch, Victoria, Champaign, Gloire des Sablons, and others.

RASPBERRIES, BLACKBERRIES, STRAWBERRIES, GOOSEBERRIES.

EVERGREEN TREES—Several thousand of large size and fine specimens, viz., Norway, Black and Hemlock Spruce, Balsam Fir, European Silver Fir, Scotch, Austrian and White Pines Arbor Vitæ, Red Cedar, Sweedish Juniper, Savin, &c.

ROSES—Hybrid Perpetual, Moss, Climbing, Bourbon, Tea, Noisette, &c.

PÆONIES, DAHLIAS, GLADIOLUS, and other Bulbs.

GREEN HOUSE AND BEDDING PLANTS.

In short nearly everything desirable in the nursery line can be furnished, of good quality, and at moderate rates.

20,000 one-year old ANGERS QUINCE STOCKS. Address as above
Sept. 17—w2tm1t.

BLOOMINGTON NURSERY, ILLINOIS.—

160 ACRES OF APPLE TREES,

BEST STOCK EVER OFFERED,

$30 to $60 Per Thousand.

Also PEARS, GRAPES and SMALL FRUITS, with a general assortment of ORNAMENTALS, NURSERY STOCKS, &c.

30,000 TULIPS, with HYACINTHS, CROCUS, &c. Plant in Fall. Send red stamp for Catalogue. F. K. PHŒNIX,
Sept. 17—w8t. Bloomington, Ill.

ADIRONDAC GRAPE.—

The earliest and best native grape, of the most delicate flavor, equal to the best Vinery Grapes, without pulp, and ripening two or three weeks before the Delaware.

2 year old	No. 1—very strong	....	$5.00
2 do.	No. 2—strong	....	4.00
1 do.	No. 1—very strong	....	3.00
1 do.	No. 2—strong	....	2.00

A few 3 years old, extra, with some wood left for fruiting the first year, $10 each.

Vines will be packed in the best manner and forwarded by express or small vines by mail, if desired. Apply, with remittance, to

JOHN W. BAILEY,
Sept. 3—w6t. Plattsburgh, Clinton Co., N. Y.

EVERGREEN TREES.—

The undersigned offers

10,000 EXTRA SIZED AND WELL FURNISHED

Norway Spruce, Scotch Fir, and White or Weymouth Pines, from 6 to 16 feet high, at low prices, in lots of 100 and upwards.

September being one of the best months in the year for transplanting, purchasers will do well in taking advantage of the above offer.

Orders addressed to the subscriber, at the Astor House, New-York, or at Harrison, Hudson Co., N. J., will be promptly attended to.

SAMUEL C. PITMAN,
Sept. 10—w4t. Newark Nurseries, N. J

---

20 HEAD OF ALDERNEY CATTLE AT PRIVATE SALE.

Eighteen Cows, Heifers and Calves, and 2 Bulls, bred from importations of the late John A. Taintor, and

WARRANTED FULL BLOOD.

Color mostly fawn and white, and French grey. They are superior animals, and at reasonable prices. WALLACE BARNES,
Location ¼ mile west of Railroad Depot, Bristol, Conn.
Sept. 17—w4tm1t.

PURE BRED LOP EARED MADAGASCAR RABBITS.

The undersigned having increased his pure stock of the above breed, is now prepared to execute orders, which will be carefully boxed, and delivered in Philadelphia. Address

FRANCIS MORRIS,
Sept. 10—w&mtf. Box 1652, Philadelphia Post-Office.

J. C. TAYLOR, Holmdel, N. J., Breeder OF WEBB SOUTH-DOWN SHEEP,

Would inform his old customers, and others, that he has a very superior lot of yearling rams, 50 ram and ewe lambs, besides a few breeding ewes, to dispose of at private sale. Also 5 stock rams to rent. Please send for circular for particulars.

N. B.—Persons leaving New-York or Philadelphia at 6 A. M., on Camden and Amboy route to Freehold, can reach my place by 11 o'clock, so as to return to either city the same evening.

Boats leave foot of Robinson-Street, New-York, for Keyport and Holmdel route at 4 o'clock P. M. Aug. 1—w&mtf.

IMPROVED SHORT-HORNS FOR SALE.—

The subscriber, wishing to reduce materially the number of his herd, offers for sale at low prices, BULLS, BULL CALVES, COWS and HEIFERS, all having

GOOD PEDIGREES.

A Catalogue will be sent, with prices marked, to any one desirous of purchasing.

Apply at Ellerslie Farm, one mile south of Rhinebeck Station, Hudson River railroad, or by letter addressed to

May 14—w&mtf. WILLIAM KELLY, Rhinebeck, N. Y.

PREMIUM CHESTER COUNTY WHITES.—

THOMAS WOOD

Penningtonville, Chester Co., Pa.,

Continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. April 16—w&mly.

IMPROVED SHORT-HORNS FOR SALE,

The subscriber, wishing to reduce the number of his herd, will sell at AUCTION, at the Hamden County Fair, in Springfield,

On the 6th, 7th and 8th of October,

the following Stock of 7 Cows, 1 three-year old Bull, 1 yearling Bull, 3 Bull Calves and 2 Heifer Calves. Sale of the above at noon on the 7th. Pedigrees approved by the cattle Breeders' Association.

Also on the 8th, at noon, the celebrated stallion TIPPOO. The above will be sold to the highest bidder, without reserve.

At private sale, 50 or 60 improved Chester County Pigs, with 15 or 20 breeding Sows.

Orders for any of the above will receive prompt attention.

WILBUR WILSON
Sept. 17—w3t. Agawam, Hamden Co., Mass.

IMPROVED STOCK FOR SALE.—

SHORT-HORNS,

COWS, HEIFERS, BULLS AND BULL CALVES.

ALDERNEYS.

SHEEP---Cotswolds, and a few Spanish Merinos and Shanghais.

SWINE---Berkshire and Essex.

This stock is all of the first class—the Short-Horns Herd Book animals. My place is five miles from the Railroad Station at Hudson

Address SAMUEL M. FOX, Manor House,
July 30--wtf. Livingston, Columbia Co., N. Y

THOROUGH-BRED SHORT-HORNS FROM THE GROVE HERD.

A Few Cows, Heifers and Bull Calves

from this old established herd, got by Lord Oxford, 3089, Imperial Duke, (18083.) and other first class bulls, for sale on moderate terms

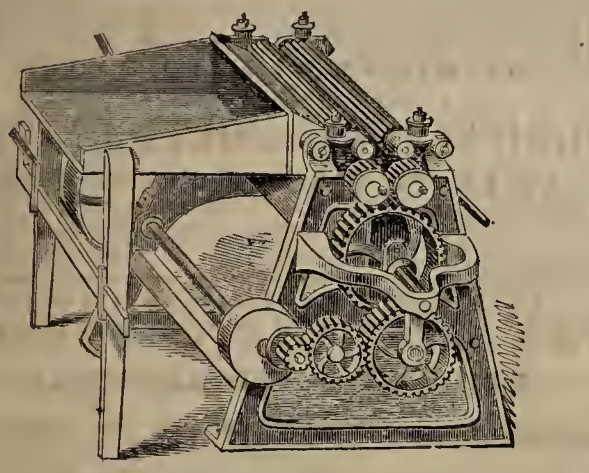
ALSO A FEW SUPERIOR ALDERNEYS.

Apply to FRANCIS M. ROTCH,
Feb. 26—wtf. Morris, Otsego Co., N. Y

MALLORY & SANFORD,
CORNER WHITE & CENTER-STS.,
NEW-YORK.

FLAX AND HEMP DRESSER.

SEND FOR A DESCRIPTIVE CATALOGUE.



MALTA, SARATOGA Co., N. Y., Aug. 10, 1863.

MESSRS. MALLORY & SANFORD:

Gentlemen—On the 19th day of March we drew to the mill of N. G. Akin, thirty-nine hundred and thirty (3930) pounds of flax straw, which he dressed through the old Brake, and we received four hundred and eighty-one (481) pounds dressed flax.

We about the first of June, drew to the mill of Wm. H. Buckley forty-four hundred and ten (4410) pounds of flax straw, which was dressed through one of your Patent Flax Brakes; we received eight hundred and five (805) pounds of dressed flax.

The flax was grown on the same piece of land, and there was no perceptible difference in the quality of the flax, except that the portion drawn to Akin's mill was rotted in the fall of 1862, and that drawn to Mr. Buckley's mill was spring rotted, which is considered not so good, from the fact that it loses part of the oily matter from the fibre, and does not yield as much per ton of straw as the fall rotted.

You will perceive by the above statement that we received from Mr. Akin's mill 245 pounds nearly of dressed flax per ton of straw, and from Mr. Buckley's mill 365 pounds of dressed flax per ton, which makes a difference of 120 pounds per ton in favor of your Brake.

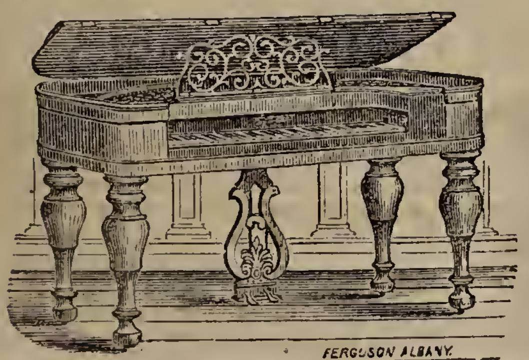
We are recommending our neighbors to take their flax to one of your Brakes to have it dressed, although it is 15 miles to the nearest one at present.

J. B. WEEKS.
L. L. WEEKS.

I certify that the above statement is correct, as I saw the weighers' receipts for both lots of straw, and weighed the dressed flax myself that was dressed at my mill. The flax dressed at Mr. Akin's mill is correct, no doubt, as the above gentlemen are perfectly reliable.

Aug. 27—weow2tm3t. WM. H. BUCKLEY.

BOARDMAN & GRAYS'
PATENT IMPROVED
INSULATED IRON RIM AND FRAME



PIANO FORTES.

MANUFACTURED BY
WILLIAM McCAMMON,
(Successor to BOARDMAN, GRAY & Co.)
Albany, N. Y.

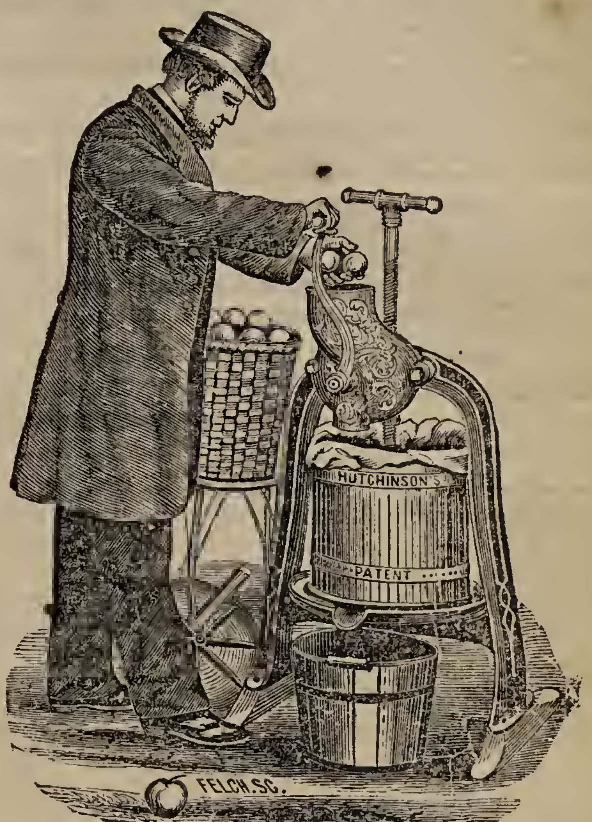
☞ Send for illustrated price list. Nov. 27—w&mtf.

AGRICULTURAL AND HORTICULTURAL Books for sale at this office.

THE GREAT WANT SUPPLIED.
FAMILY

WINE & CIDER MILL
WITH PRESS COMBINED.
(Hutchinson's Patent.)

Costs but $18. Grinds 6 to 8 bushels of APPLES, 10 to 12 bushels of GRAPES or CURRANTS per hour.



The machine, excepting the curb is made wholly of iron, prepared so that it does not affect the juice.

It is easily handled and worked by one man, and takes up no more room than a chair.

A large number have been sold, and WITHOUT EXCEPTION give perfect satisfaction.

The Mill and Press complete, with a pamphlet containing full directions to make Wine and Cider in the best manner, will be forwarded upon receipt of the price, $18, by

J. B. BROWN & CO.,
Peekskill, N. Y.

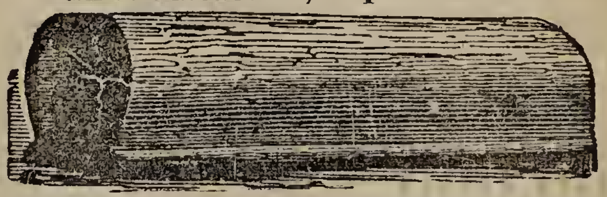
Manufacturers of the celebrated Peekskill Plows, best Iron Beam Plows, Land Rollers, and other Agricultural Implements.

Send for Illustrated Circular.

Mills forwarded from New-York if desired. As the demand is certain to be large, orders should be sent in as early as possible.

July 23—Aug. 27—Sept. 17.

NEW-YORK STATE TILE WORKS,
NEAR THE CORNER OF
LARK & LYDIUS-STREETS, ALBANY, N. Y.,
WM. M. BENDER, Proprietor.
GEO. JACKSON, Superintendent.



The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same.

Also DRAINING TILE MACHINES for sale of the latest imprvoed Patterns. For further particulars address as above. Ap. 9—w&m.

QUINCY'S ESSAY ON THE SOILING OF CATTLE, giving full directions for the care of cattle by this method. Price 50 cents. For sale by

LUTHER TUCKER & SON, Albany, N. Y.

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NEW PHILADELPHIA RASPBERRY.—After the 10th of 10th month (October) we shall have ready for sale and shipment, genuine, well rooted plants of the above, by the dozen or hundred.

From its great hardiness, extraordinary productiveness and fine flavor, it promises to be the leading Raspberry for market or private gardeners. Price, $2.50 per dozen, $15 per 100.

PASCHALL MORRIS,
Agricultural and Seed Warehouse,
1,120 Market-St., Philadelphia.
Oct. 1—w&mtf.

A SPLENDID VIEW OF THE FAIR GROUNDS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY, AT UTICA. Size, 15 by 24 inches, printed in colors. Copies sent by mail, postage paid, upon the receipt of 25 cents. Address

LEWIS & GOODWIN,
452 Broadway, Albany, N. Y.
Sept. 24—w1t.

FIRST CLASS APPLE TREES

At $10 Per Hundred.

A. M. WILLIAMS, Syracuse, N. Y.
Sept. 24—w4t.

200,000 APPLE, PEAR, ANGERS QUINCE, MAHALEB, PARADISE, and other Stocks. Strong EVERGREENS and ORNAMENTAL TREES and SHRUBS. Carriage paid to New-York. Catalogues now ready.

B. M. WATSON, Plymouth, Mass.
Sept. 24—w4t.

60000, ONE YEAR OLD CONCORD GRAPEVINES,

From cuttings.

No. 1	$8.00 per 100	$70.00 per 1,000
No. 2	6.00 do.	50.00 do.
No. 3	—	40.00 do.

GEO. SEYMOUR & CO.,
South Norwalk, Conn.
Sept. 24—w3t.

THOROUGH-BRED SHEEP FOR SALE.—I will sell sixteen 2 and 3 year old Bucks, in good condition for the Eastern or Western markets. Also ten of my old breeding Ewes. The above sheep are pure blood Atwoods.

Any one wishing to start a pure blooded flock, will find this a rare chance. For particulars inquire of Col. H. H. Merritt, of this place,

N. T. SPRAGUE, Jr.
Brandon, Vt.
Sept. 24—w3tm1t.

RURAL ADVERTISER,

OF EIGHT QUARTO PAGES,

A MONTHLY PUBLICATION, DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

At 25 Cents per annum, payable in advance. Published by PASCHALL MORRIS, 1,120 Market-St., Philadelphia. Where subscriptions will be received.

Sept. 24—w&mtf.

ALL HAIL THE TRIUMPH THAT

FICKARDT'S CATTLE POWDER

HATH ACHIEVED!

THOUSANDS ARE TESTIFYING TO ITS EFFICACY.

" The Merciful Man is Kind to his Beast."

AFTER years of study and experiment by the inventor, to compound from PURE VEGETABLE MATERIALS a Powder that SHOULD and MUST take the place of the thousand and one nostrums gotten up and palmed upon the public as "CERTAIN REMEDIES" for the cure of al diseases which the brute creation are "heir to," he has produced the one heading this advertisement, and none CAN BE GENUINE unless bearing our FAC SIMILE signature. The demand has been such that its sale has been chiefly confined to the State of Pennsylvania, but we have now consummated such arrangements that we are prepared to supply the numerous orders now on hand, as well as those we may hereafter receive from other States of the Union.

Knowing this powder to possess all the curative properties here set forth, we deem a fulsome tirade of words unnecessary, feeling assured that its OWN MERITS will secure for it a ready sale. Being composed of pure vegetable ingredients, it can be safely and judiciously given to that noble animal the HORSE. Its effects are no FALSE PAMPERING of the system, creating a bloated carcass with a premature shedding of the hair; but on the other hand, it strengthens the digestion, purifies the blood, regulates the urinary organs, thereby improving and protecting the whole PHYSICAL condition of the animal even when in an apparently healthy state.

To the Agriculturist and Dairyman it is an invaluable remedy for their NEAT CATTLE laboring under HOOF diseases, HOLLOW HORN, and other of the many complaints to which they are liable from a suppression of the natural secretions.

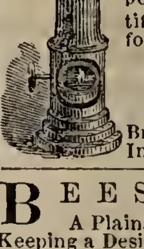
MILCH COWS are much benefitted by occasionally mixing with their slop or feed—it has a tendency to strengthen the animal, remove all obstructions from the milk tubes, promote all the secretions, and consequently adding much to the strength of the animal, quantity and quality of the Milk, Cream and Butter.

HOGS, during the warm seasons, are constantly overheating themselves, which results in their getting Coughs, Ulcers of the LUNGS and other parts, which naturally has a tendency to retard their growth. In all such cases a tablespoonful mixed in a bucket of swill and given every other day will speedily remove all difficulties, and the animal WILL SOON INCREASE IN HEALTH AND FAT.

☞ For sale by all Druggists and Dealers. Price, 25 cents per package.

AGENTS.—Lane & Paine, 18 Buffalo-Street, Rochester, N. Y.; D. S. Barnes & Co., 202 Broadway, New York; and Dyott & Co., No. 232 North Second-Street, Philadelphia. July 2—w&m6mos.

CRAIG MICROSCOPE.



This is the best and cheapest Microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of $2.25, or with six beautiful mounted objects for $3, or with twenty-four objects for $5. Address

HENRY CRAIG,
180 Center Street, New-York.

A liberal discount to the trade.

Retailed in Albany by GEORGE F. UDELL, 536 Broadway, and by BENJAMIN MARSH, 34 State-Street. In Troy by YOUNG & BENSON. April 2—w&m1yr.

BEES AND BEE KEEPING—A Plain, Practical Work, with directions how to make Bee-Keeping a Desirable and Lucrative Business, and for Shipping Bees to California. By W. C. Harbison. Price $1, by mail post paid. For sale by L. Tucker & Son, Co. Gent. Office, Albany, N. Y.

AMERICAN WEEDS AND USEFUL PLANTS—Being a 2d and Illustrated edition of Agricultural Botany: an enumeration and description of useful plants and weeds, which merit the notice or require the attention of American agriculturists. By Wm. Darlington, M. D. Every Farmer or Farmer's Son who wishes to know the names and character of the plants growing on his farm should study this book. For sale at the office of the Co. Gent. and Cultivator.

L. TUCKER & SON.

THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N. Y., NOVEMBER, 1863. No. 11.

THE CULTIVATOR FOR 1864.

Cash Premiums for Subscriptions!

In approaching the conclusion of another year, we have to record—amidst all the burden of our national war—a remarkable degree of prosperity in every industrial pursuit, and that our Agriculture, not less than our trade and manufactures, is thriving perhaps more vigorously than ever before. It may be doubted whether our Farmers, at any former time, have had so much money in their possession, or have been so free from debt; nearly all sales are made for cash or its equivalent, losses are diminished, and, although the prices of purchased materials are enhanced, and taxation is increased, the larger revenues of the year have still netted a better return than usual to the cultivators of the soil.

It is, therefore, with renewed confidence that we ask the attention of the Friends of THE CULTIVATOR to its Terms for 1864. In the closing volume we think the pledge of a year ago has been fully redeemed—that no difficulties of the times should interfere with the excellence of its mechanical execution, and no discussion of public or political affairs—important as they are—should divert its aim from the practical improvement of our Agriculture, or lower its standard as a Rural Magazine.

THE CULTIVATOR has thus continued—almost alone in the ranks of the Agricultural press—of the same size, and, up to the present time, at the same price, as in former years, while a very great diminution in the space hitherto occupied by advertisements has actually enabled us—although a source of loss to ourselves—to give in reality a much increased amount of reading matter. The paper on which it is printed has cost during 1863, *fifty per cent.* more than in 1862, and, as we write, a farther advance is probable. We have therefore determined to fix the price of THE CULTIVATOR hereafter at

SIXTY CENTS PER YEAR.

This is a change of very small amount to each subscriber, and one which will only partially meet the additional expenses incurred. But we have not made a larger advance, because we desire at any sacrifice that THE CULTIVATOR should continue to be, as it has been heretofore, the *Cheapest Agricultural Paper of its size in the World,* while EXCELLED BY NONE IN THE VALUE AND VARIETY OF ITS CONTENTS AND THE EXTENT OF ITS CORRESPONDENCE. Taking advantage of its cheapness, we have hoped moreover, that the coming year would witness an increase in its circulation in proportion to the prosperity abounding among our farmers, and it is to such an increase we must look, rather than to this slight enlargement of price, to enable it to pay its way.

The system of clubbing THE CULTIVATOR with the ANNUAL REGISTER OF RURAL AFFAIRS will be continued, as it has proved far more satisfactory to our readers than any other we can adopt. The Annual Register for 1864 is now out, as will be seen from an advertisement on another page of this number, and will be found fully as attractive and useful as the preceding issues.

The following are therefore the

Terms of the Cultivator for 1864.

ONE COPY OF THE CULTIVATOR..............................	**60 Cents.**
ONE COPY OF THE CULTIVATOR AND REGISTER...........	**85 do.**
TEN COPIES OF THE CULTIVATOR AND REGISTER........	**$6.00**

Premiums:

1. For Ten Copies of THE CULTIVATOR and REGISTER, accompanied by the cash ($6 00)—**one extra copy of both to the Agent.**
2. For Fifty Copies of THE CULTIVATOR and REGISTER, accompanied by the cash ($30) we will pay a **Cash Premium of Five Dollars.**
3. For the Largest Number of Subscribers for THE CULTIVATOR and REGISTER received from any one person up to the 1st day of March next, accompanied by the cash at 60 cents each, **a Cash Premium of Twenty-Five Dollars.**
4. For the 2d Largest Number of Subscribers received as above, a cash premium of **Twenty Dollars.**
5. For the 3d Largest Number of Subscribers, as above, a cash premium of **Fifteen Dollars.**
6. For the 4th Largest Number of Subscribers, as above, a cash premium of **Ten Dollars.**

*** This List may be somewhat enlarged hereafter, should we be enabled to do so advantageously.

*** THE CASH PREMIUMS offered in the above List, it will be understood are **in lieu of any extra copies of the paper.** Those not receiving a cash prize, will be entitled to a Premium Copy of THE CULTIVATOR and REGISTER for every Ten Subscriptions accompanied by the cash, at 60 cents each.

Those competing for premiums will be careful to *number the subscribers* they send in, thus—1, 2, 3, and so on, so that additions to the list from time to time may show at a glance the number reached. This prevents any misapprehension, and, unless it is done, we cannot be responsible for any failure to credit competing subscriptions to the proper party.

TO CANADA SUBSCRIBERS.—Subscribers in Canada who remit in Bills of their own Specie-paying banks, will be supplied at the above prices—the premium on these bills enabling us to prepay American postage. If remittances are made in American bank notes, or, from New Brunswick and Nova Scotia, in the bank notes of those provinces, our terms will be as follows: One copy CULTIVATOR, Seventy Cents—Ten copies CULTIVATOR and REGISTER, (including an eleventh or free copy as above,) $7.00—in order to enable us to prepay the American postage under the present regulations of the Department.

OUR PROSPECTUS for 1864 will be ready soon, and will be sent to all applying for it, together with sample copies as may be desired. Those early in the field will succeed in making up the largest lists.

THE ANNUAL REGISTER can be sent to subscribers for for 1864 as fast as they are received, and those desiring a copy for use in canvassing can remit 25 cents for it, and deduct this amount when they send payment for the club. A simple exhibition of this valuable book with its scores of neat and instructive illustrations, will often secure a subscription.

LUTHER TUCKER & SON,
Albany, N. Y.

NEW-YORK STATE FAIR.*

Horse Pitchforks.

The demand for Horse Forks for unloading hay is steadily increasing. Farmers are becoming satisfied that hay can be unloaded more expeditiously and with far less labor and expense, by the use of a good horse fork, than by hand; and our inventors and manufacturers are not slow to supply the demand. We have already a dozen or so different patent horse forks—Gladding's, Beardsley's, Palmer's, &c. The latter manufactured by Wheeler, Melick & Co., of Albany, received the first prize at the State Fair last year. Some improvements have since then, been added to it, and it is unquestionably a valuable fork. A new candidate for public favor was on the grounds this year—invented by Squire Raymond, of Genoa, Cayuga county, N. Y. It hooks up the hay in a manner somewhat similar to that of Beardsley's, and we should think could be operated with less manual labor than the fork machines.

The Horse and Hand Lever Hay Press, manufactured by L. & P. K. Dederick, of Albany, was on the ground, and attracted much attention. The practice of pressing hay is becoming more general as its advantages are better understood.

The Messrs. Dederick also exhibited a new apparatus for hoisting heavy articles by horse power, which has many things to recommend it.

Cultivators, Plows, Harrows, &c.

We noticed little that was new in this department, but there were many excellent cultivators and plows on the ground. Remington & Co., of Ilion, N. Y. had a splendid assortment. Their steel plows are yearly attracting more attention, and their horse-hoes and cultivators are everything that could be desired. For heavy soils, their "Johnston Cultivator" must prove a very efficient implement.

A. B. Travis, of Brandon, Mich., exhibited a *wheat hoe*, with an attachment for planting corn, beans, &c., that has some valuable features. There can be no doubt that hoeing wheat in the spring would prove very beneficial, and we are assured that this implement will do the work expeditiously and well, at a cost of not more than twenty-five cents per acre. This implement is patented, but Mr. Travis authorizes us to say that any farmer may make one for his own use without charge. Mr. Travis also exhibited a *revolving landside plow*.

A concentric harrow was exhibited by Moses Sheldon, Calias, Vt., which we think will prove valuable. It is circular in form, and most of the teeth are less than ten inches apart, but so arranged that when the harrow is drawn forward, the teeth cut the ground every two and a half inches. An *iron harrow*, manufactured by Jacob Delong, of Covert, Seneca county, N. Y., has some valuable features. It can be drawn from either end, and is thus, to a certain extent, self-sharpening. The teeth are easily fastened in the iron frame, and as the points wear off they can be driven deeper with little trouble.

There are few agricultural implements which have received so little attention as the harrow, and we are glad our inventors and manufacturers are attempting its improvement. Byron Rice of West Schuyler, showed a harrow so constructed that the teeth could be thrown out of the ground without lifting the frame, so as to allow it to pass large stones, stumps, &c. Of the merits of this, and also of a revolving harrow invented by Mr. Colby of Clarence, N. H., we cannot judge without seeing them in operation. The latter was exhibited by Van Brocklin and Aland of Rome, N. Y., who also showed their "Union" plows of different sizes. The mold-board of these plows is of the most approved form, and we have no doubt they will run easily and do excellent work. A plow with a movable beam that can be adjusted for two or three horses, was shown by Pitts and Brayley of Rochester, N. Y.

Improved Fences.

Specimens were fewer of portable and other fences shown than usual of late years. Mr. Vandemark of Phelps, Ontario Co., and H. P. Ross of Caughdenoy, Oswego Co., each exhibited specimens of portable fences. A new candidate for public favor was shown by Mr. Geo. Van Auken of Phelps, Ontario Co., N. Y. It is simply an ordinary post and board fence attached to stones sunk in the ground. A hole is drilled through the stone pillars, and the upright wooden posts are screwed on to them. A firmer fence we have seldom seen. The great objection to ordinary post and board fences, is that the posts in the ground soon decay. Mr. Van Auken's invention entirely obviates this difficulty; and we are assured that the expense is, in most sections, but little if any more than with wooden posts.

Dairy Hall.

Utica is the center of the great cheese district of the State, and as was to be be expected, there was an excellent display of cheese. It is somewhat remarkable however, that one of the very best samples of old cheese we tasted, was from the *wheat*, rather than from the dairy districts of the State. It was sixteen months old, and the cheese weighed not more than twenty-five pounds; but for richness and flavor we have rarely eaten anything superior. It was made by Theron Van Auken of Phelps, Ontario county, N. Y. Another splendid old cheese was made by John C. Hardy of Watertown, N. Y.

There was a fine show of "factory cheese." L. Tanner of Marcy, Oneida county, exhibited twelve cheeses of different sizes, running from 10 pounds up to 1,050 pounds! G. E. Morse of Eaton, E. R. Hobson of Cold Creek, H. Farrington and many others, exhibited some splendid factory cheese. Such cheese as one of Mr. Farrington's that we tasted, would soon put up the quotation of American cheese in London, to a par with the best Cheshire or Gloucester. We have never eaten a Cheshire cheese that was superior to it, and few that were its equal. On the other hand, some of the cheese on exhibition had that flavor of decomposed whey, which so much injures the reputation of American cheese in England.

There was a fine show of butter, but we have not space to particularize. There can be no doubt that our farmers are making great and rapid advancement in the art of cheese and butter making.

J. H.

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Belgium possesses an order of merit for industrial and agricultural laborers. The decoration worn by the members has just been modified by royal decree, and now consists of a medal bearing an emblematical figure representing manufactures or agriculture, as the case may be, upon a black enamel ground, surrounded with a red border. The design is enclosed within a fillet, on which are inscribed the words "Skill; morality." Around the whole is a wreath of laurel in blue enamel for artisans, and green for agriculturists, surmounted by the arms of the country, suspended to a royal crown. The decoration is suspended to a ribbon of the national colors.

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* Continued from page 309.

DISCUSSIONS AT THE N. Y. STATE FAIR.

[Reported for the COUNTRY GENTLEMAN.]

Second Evening—Rotation of Crops.

SUBJECT.—*The best rotation of crops suited to the climatic conditions of the middle tier of counties in the State, on farms having at least eighty acres of good arable land.*

J. J. Thomas and Hon. T. C. Peters, were announced to open the discussion, but the former gentleman was not able to be present, and the latter said he had received no notice of his appointment, and was consequently unprepared to do the subject justice. He regretted this the more, as these discussions were very generally read by the farmers of the country. He found it difficult to determine what we are to understand as the middle section of the State.

President Conger remarked that it was not intended to confine the discussion to the best system of rotation in the middle tier of counties, but to the *climatic* conditions of the middle section of the State.

Mr. Peters was still left in a dilemma. The climate in the central counties of the State varied considerably. Pompey Hill, in Onondaga county, was from 1000 to 1200 feet above tide water, while the general level of the middle counties was not more than 400 feet. Now as 350 feet altitude are equal to 1° north, the temperature of Pompey Hill would be as cold as that of Montreal. Portions of the central counties were well adapted to wheat growing, while others constituted the best butter and cheese districts of the State. The system of rotation adapted to a wheat farm, would not suit a dairy farm. On a dairy farm the great object was to get grass; and he thought that dairy farmers, the best of them, were paying more attention to making manure and applying it judiciously, than the wheat growing farmers. Wheat growers, from the quantity of straw they have, can make more manure than the dairy farmers—but he would not say that they could do it more profitably. The dairy farmers in this State have less competition than the grain growers. Neither New-England nor the West, can successfully compete with them. The best butter on the Continent is made in the dairy districts of this State. In some sections of the dairy districts cheese is generally made, while in others farmers confine themselves to butter. Does not know the reason. Perhaps it was because the climate of the butter districts was not adapted to grain growing, while that of the cheese districts enabled the farmers to grow more grain to feed to their cows. He could not say, but perhaps it required more grain to make cheese than to make butter. Would like to hear from Col. Pratt on the subject.

Col. Pratt could not answer the question. He did not make cheese. Keeps 50 cows and makes nothing but butter. He supposed the reason was because he understood butter making, but did not understand the cheese business. The business a man understands he should stick to. He has seen no better corn this year than his own. He makes 500 or 600 cords of manure every year. He puts it into a heap, and pours the liquid from his pig pens over it. Applies it in the spring, and plows or harrows it in. If left on the surface and allowed to dry up, it is of little use. Horse dung dropped on the road and allowed to dry, is of no value. Thinks highly of white clover for cows, also for bees.

Mr. ——— of Vienna, did not know why farmers were so reluctant to speak on this subject. Agriculture was an honorable pursuit, and it ought to be a pleasure to talk about it. He formerly lived in Lewis county. The only object of breaking up land there was to reseed it and get better grass. Grass was what they wanted. When they break up a piece of land they plant corn, then sow rye, and seed it down. Some seed down, where he now lives, with green corn. But he thought if they would seed down without any other crop, they would have better grass. Farmers should sow more kinds of grass—some earlier and some later. Thought, too, we might soil our cows to advantage.

L. H. Tucker—How much seed per acre, and what kinds do you sow?

Mr. ———, red-top, one-third, and two-thirds timothy and red clover. Sandy soil better for clover; moist land better for red-top. If grass seed is sown without any other crop, the grass gets well rooted before winter, and is not liable to be winter-killed; and the next year you have a big crop. The only object of plowing in his section, is to get more grass.

The President hoped gentlemen would confine their remarks as much as possible to the subject.

Hon. Geo. Geddes of Onondaga Co., said they had a great diversity of soil and climate in his county. In the town of Camillus they could raise better tobacco than in Kentucky, while Pompey Hill grows rich in making cheese. Farmers would adopt that system of rotation which was best adapted to their particular location. He did not want a Herkimer county man to tell him how to grow wheat, and he, Mr. Geddes, was sure he could not tell a Herkimer county man how to make cheese.

Mr. Walker of Oswego Co., said in his district they cultivate land merely to get grass. If a field runs out, they break it up and plant corn, and then seed down again with rye. They plow merely to get in manure and reseed.

Mr. Sanford of Oswego, thought this question of rotation was a very important one—and he thought it would be well if the *principles* on which a rotation of crops is based were better understood. It was very well for gentlemen to come here and state facts—but a fact in itself was of no use to him, unless it could be classified and some general principle deduced from it. On a wheat farm, the question with the farmer was how frequently he could raise wheat—how the exhaustion of the soil, caused by the removal of a crop of wheat, could best and most speedily be restored. In the dairy districts grass is the object, and the question then was, how to increase it. Is it better to top-dress, or to break up, manure, and reseed?

Rev. Mr. Loomis of Cayuga Co., thought one of the most important questions for the farmers of this State, was in what way and with what products could we best compete with the West. He thought we should have least to fear in cheese and butter-making, and in raising fruit. Mr. Loomis mentioned an interesting fact: He top-dressed an old meadow—that would not produce over three-quarters of a ton per acre—with *straw*, and it increased the crop of hay to two tons per acre. He top-dresses his meadows, and also his pastures, with straw, and it has an excellent effect.

Hon. Geo. Geddes of Onondaga, said his rotation was pasture, plowed in the spring and planted to corn; then oats; next wheat, seeded down in the fall—at the time of sowing the wheat—with six quarts of timothy seed per acre, and six or eight pounds of clover seed in the spring. Formerly he allowed his grass land to lie two or three years, but now, on account of the cut-worm, he only let it lie one year.

Third Evening---Manures.

The subject for discussion on Thursday evening, was *the best method of husbanding and applying manure.*

Solon Robinson thought that the best way was not to husband it at all. He would draw it out as fast as it was made.

Mr. Van Alstyne of Columbia county, agreed with Mr. Robinson. He would apply it on the surface. Nature was a safe guide, and she spreads manure on the surface.

Hon. Geo. Geddes did not think nature a safe guide. We were at war with nature. He believed in top-dressing, but thought the fact that trees deposited their leaves on the surface was no proof that it was best to apply manure the same way.

Sol. Walrath of St. Lawrence county, had practiced top-dressing for twenty years. But he liked to have the manure well-rotted before using it. Composting manure added 25 per cent. to its value. He thought it also killed the seeds of weeds—and in the dairy districts weeds were a great nuisance. On many farms half the hay is weeds. White daisies form two-thirds of the production of much grass land. He would pile his manure in heaps and turn it two or three times to kill the seeds of weeds. Would apply it on grass or spring crops. If to the latter, would cultivate it in.

Hon. T. C. Peters would like to hear from some Long Island farmers as to their method of using manures. He found that the yield of wheat on Long Island was eight bushels per acre higher than the average in the State.

. Mr. Cox of Long Island, was called out, and said they purchased stable manure in New-York. It cost them $3 per load on the farm. They apply twelve loads per acre. This gives them twenty bushels of wheat per acre. The wheat does not pay for the manure, but after the wheat they get two or three heavy crops of hay which brings a good price. Some farmers manure for corn on sod land. They draw out the manure in the winter and spread it on the land, and plow it under in the spring. At the time of planting they also apply some well rotted manure in the hill, to give the corn a good start till it can reach the manure and sod plowed under. Others manure for potatoes, and sow wheat after the potatoes are harvested. Some cart sod from the old fences and place it in the hog-pens and cow-yards to absorb the liquid, and they use muck in the same way when it can be obtained.

Prof. Nash thought one reason why the Long Island farmers showed so well in our agricultural statistics, was because some of them were wise men, and some of them were not as wise. Immense quantities of leached ashes were brought from Western New-York. Some farmers use 1,500, 2,000, 2,500 bushels per annum. They are wise. The ashes do good. Fish, too, can be purchased at a cheap rate, and they are extensively used as manure. He had said some were *unwise.* Perhaps the remark needed qualifying. To illustrate what he meant, he would say there were many *fancy* farmers on Long Island; men who had made large fortunes in the city. They raise large crops regardless of expense. A good lady sometime since was bantering with her husband about the expense of his farm. "Every man must have some pleasure," he said. "My farm does not cost me over $3,000 a year, and it affords me more enjoyment than I can get for the money in any of the fashionable amusements of the city." The Professor knew a man of this character who has a farm of sixty acres on Long Island, and he make it produce more than six hundred acres of the same land produced a few years ago. The crops are raised at a loss, but they help to swell the general average. As a general rule, however, the farmers on Long Island are very successful. They pay great attention to composting everything that will make manure, and keep up the fertility of the soil.

Hon. Geo. Geddes remarked that the Long Island farmers sell everything they raise. They even sell their straw, and consequently they are obliged to buy manure, even if it costs $36 an acre to raise twenty bushels of wheat. Farmers in Onondaga Co. are wise enough not to sell manure in the form of straw and hay. He knows some who raise several hundred bushels of grain, and cut one hundred tons of hay a year, who do not sell a particle of it. It is consumed on the farm and the manure keeps up the fertility of the soil. Taking into consideration the amount of produce raised, and the little that is sold off the farm, he thought the farmers of Western New-York manured their land more highly than those of Long Island. There was more fertilizing matter in a good clover sod than in any twelve loads of manure you could purchase in New-York. He had a field that had never had a shovelful of manure applied to it for sixty-five years, and by growing clover and pasturing it with sheep, &c., it gets richer instead of poorer. Every farm should be self-sustaining. We cannot afford to draw manure a mile. In regard to husbanding manures he had little instruction to give. Had seen excellent effects from applying manure on grass lands in the fall, intended for corn. The corn was a foot higher and of a darker color. He thought that in the fall was the time to apply manure; but the question was how to keep the winter made manure through the summer without loss. He had thrown it into piles under sheds, but it fire-fanged.

Joseph Harris thought that in the wheat growing districts, where there is an abundance of straw, manure could be kept through the summer without loss. There is far greater loss from leaching than from evaporation. The yard should have a concave bottom, and the horse and sheep manure, which ferment rapidly, should be mixed with the sluggish cow and hog manure. This, with plenty of straw, and the heap properly compressed by allowing animals to tread upon it, would check injurious fermentation. And if the building was spouted so as to carry off the water that falls on the roof, he thought the manure would absorb all the rain that fell on the surface of the barnyard. But as more rain fell at some seasons than at others, it would be well to have a tank at one corner of the yard for the liquid to drain into. This should be saturated with plaster and pumped back on to the manure in dry weather. Sulphate of lime or plaster *in solution*, will *fix* ammonia, and he felt confident that if this course were adopted there would be no loss in keeping manure during the summer.

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Wool Growing in Michigan.—In this State rapid progress has been made in wool-growing. In 1840 the product was but 150,000 pounds; in 1862 it was 5,915,192 pounds, which assigns Michigan the fourth position among the loyal States. The clip for 1863 will be between *nine and ten millions of pounds;* this at an average of 55 cents for nine million pounds will amount to $4,950,000.

THE UTICA DISCUSSIONS.

The Application of Mineral Manures.

Hon. A. B. CONGER has prepared the following, as a summary of the first evening's discussions at the Utica State Fair; but, as the course of the discussions was so rambling, we think it might perhaps better be styled a condensed statement of the views of the chairman, as elicited by the remarks of those who took part in the debate:—

1. The most *essential* elements of the food of all plants found in their ash after combustion, and therefore styled "mineral food," are phosphoric, sulphuric and silicic acids in their several combinations with potash, soda, lime, magnesia and iron, and chlorine in its combination with the second of these bases, in the form of common salt.

2. As the presence of each one of these elements in a *soluble* form (that is so that each may in due proportion be easily appropriated by every plant) is an indispensable condition of a *fertile* soil, it may happen under an exhaustive process of cropping or an inefficient system of tillage, that one or more of these elements, though existing in the soil, are no longer in a state of sufficient solubility; or that from the foregoing causes or from the natural condition of the soil are wanting; or their relative proportion disturbed by the presence of some elements in excess.

3. Whenever any crop fails to reach a full maturity the attention of the farmer should be at once directed to a careful study or chemical analysis not only of his surface soil but of his subsoil. If both are deficient in any of the above elements there is no remedy but to apply them directly to the surface.

4. Where the subsoil contains all the mineral sources of food, it is to be made of easy access to the fine branches of the roots of plants, by very thorough plowing and deep subsoiling, and their power to permeate the subsoil in search of the food needed, may be partly estimated by some facts revealed in botanic studies, to wit, that the roots of rape have been found over five feet in length, those of clover over six, and those of lucerne over thirty, while the fibres of turnips (Swedish) diverging from the root stock are very numerous, and in common with most *cultivated* plants, will strike deep into pliable subsoil *when* the top fibres of the roots have in a porous surface soil received their necessary food and their proper care, as for instance, when rye plants, six weeks after sowing having leaves only five inches long, had produced roots two feet in length, soon to be followed by the stooling of eleven shoots with roots three to four feet in length.

5. As the turnip or clover crop reaches maturity, the elements of food circulating throughout the entire plant are gradually concentrated in the bulk of the root, and the former, after feeding to stock and returned in the shape of barnyard manures; or the latter if plowed in, bring to the surface soil those elements of mineral food which the deep stretching fibres of the roots have gathered from the subsoil.

6. Careful experiments have shown that manures in which the nitrogenous and mineral elements are properly blended, produce the greatest returns from a given area of cultivated soil, while if the former is separately used, the ash residuum shows that it has secured to the plant a larger proportion of the latter and vicé-versa.

7. As barnyard manure, carefully husbanded from animals properly fed and cared for, contains not only all the nitrogenous but the mineral food of the plants fed to them and not appropriated in the formation of flesh and bone, &c., it is clear that it is the most economical source of mineral as well as nitrogenous food to plants, provided always that it is made on the farm in sufficient quantities and the expense of its application both as to the distance to which, and the time which it is to be carted, is kept within reasonable limits.

8. But as the larger efficiency of barnyard manure lies in the evolution of its nitrogenous elements, and in obedience to the law observed in the 6th section tends to the appropriation from the soil by the plant of its mineral food, it is evidently desirable to resort to the use of the mineral manures, especially when experience has shown that if judiciously applied, they produce a larger crop than if not so applied, whether in combination with barnyard manures or not.

9. Artificial manures are too expensive for their profitable employment by the farmer, and economy of expenditure demands the selection of those found on the farm or obtained by in-expensive processes.

Thus common salt (one of the mineral elements of the food of plants as above mentioned) in its application of from 12 to 20 bushels per acre (especially if the latter amount is applied in the fall) will produce large crops of clover, turnips and mangolds. Its use in a saturated solution in hot water at the rate of 8 lbs. to 100 lbs. of Bare's or Jarvis Island Guano, will render 8 per cent. of the phosphoric acid in combination with the lime in those guanoes soluble, that is, place so much phosphoric acid in a condition to be at once taken up by the plant. Its power then as a *solvent* of the phosphate of lime existing in the soil, cannot be denied, and its application in combination with plaster (sulphuric acid and lime) and ashes makes the cheapest possible top-dressing for grasses and grain—*except in cases* where the phosphate of lime is deficient in the soil.

10. Common ashes are the most easily recognized form of potash. Where not attained in sufficient quantities on the farm, their place may be measurably supplied by muck dug from swamps, obtained from the bottom of ponds, &c., and mixed in layers with stone lime sufficiently broken up, and in the proportion of about one bushel of the latter to four or five of the former, by which process not only the seeds long buried in the muck are deprived of their power of vegetation, but the humic and ulmic acids in the muck are made, through their combination with the lime, to play an important part in the economy of vegetation.

11. Lime is best applied in the form of gypsum, and thus yielding the element of sulphuric acid should rarely be applied in the caustic form, or even when this last has been partially de-oxydized by water, unless on lands abounding in *vegetable matters*, as in the case of swamps or wet lands newly drained.

In its combination with phosphoric acid it is most valuable in stimulating the growth of clover and turnips, the best precursors of grain crops. Bones, pulverized and treated with salt as above, or *decomposed in compost heaps* of alternate layers of good soil or muck, with a like sprinkling of salt as above, under circumstances which secure a due development of heat, will always be the cheapest form of phosphate, unless the relative market prices of bones and American guanoes, containing 60 to 70 per cent of phosphoric acid may make the latter cheaper.

12. The economical method then to be pursued by the farmer is dependent upon the selection in the first instance of the mineral manures best adapted to the wants of his farm, and the crop he seeks to ensure; upon its distribution throughout a soil thoroughly pulverized and its retention for the use of the upper branches of the roots in connection with his barnyard manures, likewise applied and distributed; upon a system of deepening, opening, and rendering friable his sub-soil and giving the roots of all cultivated plants the easiest as well as farthest range for the mineral food they best appropriate; in short, upon the employment of all the methods suggested in the question, but in every instance he is to select his mineral manures, and adapt his tillage and rotation so as to make each crop (the influence of the seasons being a fair average,) a profitable return upon his expenditure, labor and investment.

Pistillate and Staminate Strawberries.

A late number of *Hovey's Magazine*, notices Dr. Lindley's remarks on W. R. Prince's article on the strawberry, and quotes the Doctor's remarks, as follows:

"Is it true that some plants of the American strawberry are absolutely female? Is it true that those females are far more productive than our hermaphrodites? If so, the fact is worth knowing, and we venture to ask the following question: Can any of our readers on this side of the Atlantic confirm these statements? If they can we shall be only too happy to publish their replies."

Hovey adds:—

"This proves that the English botanists know nothing of the sexuality of our American strawberries, which every intelligent cultivator in America well knows."

We make these quotations for the purpose of suggesting some inquiries. We never specially admired Dr. Lindley, neither on account of his opinions nor courtesies, (although quite superior to some American editors on the latter point,) yet it is perhaps justice to say that speaking as a botanist, he is not wholly in the wrong. A scientific person, who had never examined the strawberry plant, would suppose on hearing the common language of strawberry growers, that it is strictly diœcious—or in other words, that some plants or varieties, bear pistils only, and others both pistils and stamens. An examination of the flowers would prove that he was mistaken, and that what are termed pistillate plants, are abundantly supplied with stamens also—but that these stamens are so small and imperfectly developed, as to be incapable of supplying a proper amount of pollen to the stigmas. If, for example, the flower of the Hovey's Seedling be examined with a microscope, the stamens will be found to be small and short, as shown at *a*, fig. 1, and the imperfect anthers which they bear, on being pressed or broken open on a slip of glass, will be found to afford very little pollen—quite insufficient, usually, to fertilize the flower. Compare these organs with the same in the flowers of the Large Early Scarlet, fig. 2. The pistils, *b*, will be found the same in both, but the stamens in the Scarlet will be seen large and well developed, and on being broken, will emit an abundance of pollen. There are other varieties, such for example, as the Dundee, which have intermediate stamens, and furnish a smaller supply of pollen than the Scarlet, yet still sufficient to cause abundant bearing. The half abortive stamens of the Hovey are, commonly, quite insufficient for fertilization; but in some localities, and under peculiar circumstances, the anthers appear to have furnished pollen enough for this purpose. The question arises, do these few pistillate sorts of European origin, which bear better in this country when fertilized, than when planted alone, require the same fertilization in their native localities? Or do the altered circumstances of soil, climate and treatment, effect an improvement of the imperfect anthers, sufficient to supersede entirely the use of fertilizers?

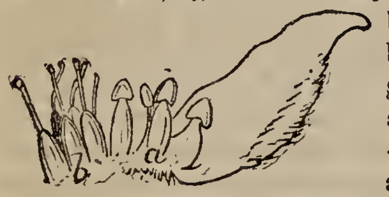

Fig. 1.

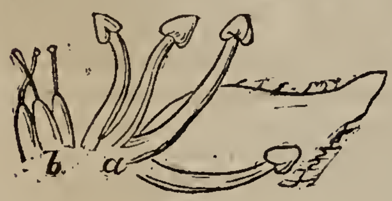

Fig. 2.

It appears from the same article copied above, in speaking of the size of some new strawberries, that fifteen of Boyden's Seedling, and ten of Austin's Seedling, each weighed a pound; that is, the Boyden weighed a little over an ounce, and the Austin an ounce and a half each, as an average.

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VISIT TO SEVERAL VINEYARDS.

Messrs. L. Tucker & Son—The following, from a valued correspondent, seems too good to be lost:

"I have been on a tour among Grapes and Vineyards. At ——, in N. J., I saw a vineyard of 10 acres, chiefly Isabella—a failure from rot. The leaves were greatly injured by mildew. The soil a sandy loam, more sand than loam, on a somewhat adhesive subsoil. The location flat and exposed. An experiment had been tried in covering a small portion with a glass roof, the sides completely open. Under this the foilage was perfect, the fruit good; which was confirmatory of my convictions of mildew.

"At —— in New York, I saw a fine collection of grapes, all more or less mildewed except those descended from the Vitis cordifolia (the Clinton race) which was also in accordance with previous observations. The Delaware is held in great estimation here, and its conduct warrants it. On a place near by was an acre in Delaware plants suffering a good deal from mildew and a little, but very little, rot,—the crop very good but most of the main leaves destroyed which must injure the crop somewhat. On a steep slope a few miles above and surrounded (except on the south-east) by dense woods, I saw a splendid vineyard, about 5 acres in extent, of Catawbas. The soil seemed a free, gravelly loam; and there was very little mildew although the proprietor assured me he never had any rot before. These vines looked grand and had a famous crop. I tasted some pure Catawba juice two years old; found it very fine indeed.

"At Dr. ——'s I spent a very pleasant day. He has 50 acres in Catawba and Isabella, mostly the latter. His Catawbas have suffered some from rot, mostly on the flat ground. His main planting is on south-east slopes—his crops good. I noticed he allowed his vines to run without much pinching of the young wood, even allowing them to festoon from trellis to trellis. The one great trouble with all seemed to be getting trellises high enough for the vines to extend and ramify. The low dwarf mode adopted in Europe will not suit our American grapes—they must have room.

"The Doctor makes a great deal of wine—and must have several thousand gallons in his cellar. He mixes the Catawba and Isabella. I tasted several vintages and they were all good. He adds sugar, nothing else and not much of that, only enough to make them agreeable to American tastes as he says. He puts entire faith in these two grapes and will hear of nothing else for extensive plantations. His soil is a gravelly loam, some 20 feet deep, with perhaps 2 or 3 per cent of organic matter.

"The Concord has rotted in many places.

"As to the Maxatawney grape, my experience does not yet warrant a decided opinion, but all I would say would be decidedly in its favor. It is now (Sept. 12th) about fit to eat here, while the Isabella is sour as vinegar. It is as good for table use as Delaware—but you should be cautious with new things. The Creveling I have faith in—will see more of it soon. White grapes, as a general rule, are not as saleable in market as black; why I know not, but it is a fact.

"The best trellis for native vines, I find a general sub.

ject of anxiety among grape growers. American grapes will not submit to the close dwarfing mode of European culturists. I have long had a notion that the best mode would be the same I have seen in some cold graperies, based on the fact that the best and earliest fruit is always found on strong, young canes of the previous years growth. The Thomery mode is in my opinion a humbug here. I mean to have some trellises put up for trial, allowing the uprights to run some feet above the horizontals—the former to be used for the top shoots—of which I would have one selected out of three distinct and separate ones from each root; fruiting only young upright shoots and cutting an old cane yearly from each vine. As to the principle it is clear as day—but its practicability must yet be determined."

From the above several things are to be learned—that in the past very trying season as it has proved for the grape in certain localities East, no variety has been entirely healthy—that the old favorite varieties are by no means discarded, flourishing as they do on certain soils and locations; and that existing modes of pruning and trellising are not deemed perfect by all good growers.

Bloomington, Ill., Sept. 16, 1863. F. K. PHOENIX.

Proper Depth of Covering for Seed Wheat.

In walking through a wheatfield I find once in a while a bunch as large round as a half bushel basket, which is of a ranker growth and darker color than that around it. *There* is something which plants like, and I wish to know what it is.—*D. D., in Sept. No. Cultivator.*

I have also observed in wheatfields, stools of wheat far better than surrounding ones, and in examining fields I find sometimes a single kernel of wheat producing but one stalk, and that a feeble one. At other times two or three stalks from one kernel, and occasionally fifteen, and sometimes more will be found. In view of these facts a man may well exclaim, "There is something which plants like, and I wish to know what it is."

For several years I have made as extended observations as my time and circumstances would permit, and have extended my observations to as many different fields as were accessible, and I have always found that the kernel producing but one stalk was deposited *deep in the soil*, while the stools containing several stalks and the "bunches as large round as a bushel basket," proceeded from kernels which were but slightly covered. From these facts I conclude that whatever partialities plants may have in other respects, they do certainly "like" air and light.

In Gray's Botanical Text-Book, paragraph 113, it is stated that "the budding end" of the embryo plant, "invariably rises upwards, as if it sought the air and light; the root end turns constantly from the light, and buries itself in the dark and moist earth." From this first manifestation of an inherent property, "it insures that each part of the plant shall be developed in the medium in which it is designed to live and act—the *root in the earth*, and the *stem and leaves in the air*."

That portion of the wheat plant *above* the crown is *stem*, below the kernel, is *root*.

If the kernel is planted three inches deep, there are then nearly three inches of the stem in the "dark and moist earth," which, according to nature's laws, should be in the air. To what extent this law of nature can be violated without a detriment to the plant, is a question for agriculturists to consider. If Dr. Gray, in the work above quoted, has correctly stated the laws governing the vegetable kingdom, it is evident to my mind, at least, that wheat should receive but a shallow covering of earth.

May not the disparity in the growth of vegetation, in the same field, observed by your correspondent, D. D., be accounted for upon this theory? C. C. DEWEY.

Napoleon, Michigan.

INTRODUCTION OF ITALIAN QUEENS.

The best method that I have practiced for preparing a colony of the common variety of bees to *kindly* receive an Italian queen, is, first, to search for and find the queen which is to be supplanted by the Italian, and cage her—the black queen—at once, and immediately replace her in the midst of the colony where she is to remain during four or five days, by which time all of the eggs in the hive will have so far advanced as to be unsusceptible of producing queens. If this be done expertly, the bees will not make any attempt to rear another queen in her stead. Now remove the cage and queen from the hive, and introduce the Italian queen alone, either in the same or in another cage; allowing the caged queen to remain in the midst of the colony one or more days, at which time she may safely be allowed to pass in among the bees. It should be borne in mind that the newly introduced queen should have a supply of honey in her cage.

This mode is adapted to all kinds of hives, and peculiarly adapted to hives without frames. The way to proceed with such hives, is to "force" or drive out the bees into an empty box or hive. Now spread a large cloth, or place a wide board on the ground, upon which another empty box or hive should be placed with one side raised from the cloth or board, so as to allow the bees to enter and pass up into it. Then hold the hive containing the bees over the cloth, a little distance from the empty hive, and shake out a portion of the forced bees upon the cloth. Now look for the queen while the bees make for the empty hive. If she is not found the first time trying, repeat the experiment by setting down the hive from which the bees have been shaken—after they are all out—and shaking them from the one they have just entered. This should be repeated until the queen is found, when the bees should be allowed to return into the hive from which they were forced.

As it has been ascertained from *actual trial* that the Italian bees are decidedly superior, compared with the black or common kinds, especially in cold climates, it is important that bee-keepers should understand these manipulations of transferring queens.

The writer recently sent for and received an Italian queen from the extensive apiary of Rev. Mr. Langstroth & Son,—who advertise in the COUNTRY GENTLEMAN,—which queen surpasses in beauty and fine color anything that I have yet seen, not excepting those that have been imported. Mr. Langstroth, from a laudable enthusiasm, and being pre-eminently skillful as an *apiarian*, has succeeded in breeding those Italian bees up to a high degree of purity. The queen was so extraordinary fine that I have transferred her from colony to colony several times, allowing her to remain only a few days in each colony; after she has been taken out of the hive, the workers rear themselves another from eggs laid by the fine queen. C. J. ROBINSON.

TURNIPY TASTE IN MILK.

The unpleasant taste given to milk and butter when the cows are fed upon turnips, is effectually corrected by the use of a little common nitre, (or saltpetre,) but the common mode of using this preventive is not the best. It has been usual to put a lump of saltpetre into the milk-pail, but it sometimes happens that the nitre remains undissolved, and the milk retains the objectionable flavor. Instead of this, make a strong solution of saltpetre—say a pint of boiling water upon an ounce of saltpetre; when thoroughly dissolved, put it in a bottle and stand in a cool place. Before milking, put into the milk-pail a spoonful of this solution, or more, according to the quantity of milk expected, and all turnip flavor will be entirely destroyed. It also in a great degree destroys the bad flavor given to butter by the yellow crowsfoot or butter-cup. This has been tried in our family, and found serviceable.

RUSTICUS.

KITCHEN GARDENS.

The present is a suitable time of the year for making preparation of ground for the kitchen garden to be planted next spring. There is no part of the farmer's possessions that would yield a better profit, so far as economy is concerned, nor a finer supply of luxuries to those who think well of the comforts of living, than a perfectly managed kitchen garden. A great mistake is made by many farmers in supposing that economy consists in expending the fewest number of hours in working and managing this important part of their possessions. Hence it is not very uncommon to see gardens, which, during the early part of the season, or soon after planting, gave some promise of valuable returns, entirely obscured before the close of summer, with pig-weeds, fox-tail, and other rampant intruders of the kind. The conclusion reached by the owner was that raising garden vegetables did'nt pay, and still less attention was accordingly given to them the next year.

Others do somewhat better; they keep their gardens clean, but, unfortunately, their vegetables are much shaded by cherry, pear, and plum trees, and neither heavy crops nor fine products are obtained.

The only way to raise vegetables to the best advantage is to devote a piece of ground specially to this purpose; and to allow nothing else to grow upon it, neither fruit trees, grass, nor weeds. This ground should be prepared in the most perfect manner, and to this end the best spot should be selected. If near the dwelling, it will, of course, be most convenient of access; but it is better to spend a minute or two daily in walking ten or twenty rods after supplies, if they can be had several days earlier and of much finer quality.

In preparing the ground, the first and an indispensable requisite, is perfect underdrainage. The ground may appear dry enough on the surface, but if on digging down two feet, water is found to settle in the bottom of the hole at a wet time, or in the spring of the year, the whole ground of this needs thorough under-draining. The drains should be at least twice as near each other as for common farming purposes, or they should be laid regularly not more than one rod apart. Those who esteem very early crops, will find this of great importance, for the soil will become warm in spring two or three weeks sooner than if filled with a surplus of cold water, which has to be slowly evaporated, carrying off a great deal of heat in the process. Manure is of little use if kept under water, and the best growth can only be secured by a warm, mellow soil, through which the air can pass.

Depth of soil is essential. Fine, well grown roots cannot be raised in a shallow bed of earth with hardpan close beneath; and considerable depth is requisite for holding what would otherwise be a surplus of water in the form of natural moisture, to be furnished to roots during times of drouth. The depth should not be less than eighteen inches. For common farmers trenching by hand will be too expensive, but may be performed equally well by horse-labor, as no trees are to grow upon this land, but its whole energies given to the raising of vegetables. First plow as deep as practicable with a common plow, running the subsoil plow in the bottom of the furrow. This will not be deep enough the first time, and it may be necessary to repeat it two or three times, in order that the whole may be perfectly loosened up. Unless the subsoil is quite sterile, it will be best next to throw up the whole, or a large part, by means of trench plowing. At the same time, as much fine manure as can be thoroughly worked in, should be applied before each plowing, whether it be with the common plow, the sub-soiler, or the trench plow. By applying a moderate quantity at each time it will become more perfectly intermixed than if a single heavy dressing is given, and this end will be still further facilitated by harrowing the manure before plowing in.

A garden prepared in this manner, will produce vegetables that will soon repay all the trouble.

But an indispensable requisite is yet to come. The cultivation must be *perfect*—no weeds must ever be allowed to grow—the surface of the soil must be constantly mellow. Will this involve "too much labor, trouble, and expense?" This brings us to the last point which we here urge, namely, *cultivation by horse labor.* We have been too much in the practice of adopting the European mode, where hand-labor is cheap and horses dear, of doing all by the spade, hoe, and rake. This will do for town gardens, but is not adapted to the necessities of farmers.

We have spoken of the ground as being exclusively appropriated to a kitchen garden, and free from all trees. It may be oblong in shape, so that the drills may extend across it the longer way, to obviate the frequent turning of the horse. But whether so or not, all that is necessary is to have a smooth, vacant strip of land at each end for the horse to turn upon. Let every thing practicable be planted in drills—coarse plants, such as cabbages, potatoes, &c., in single drills; smaller, as beets, turnips, and parsnips, in double drills; and still smaller, as salsify, lettuce, and onions, in triple drills. It will be found by experience, that the room thus given to these smaller plants, and the semi-weekly dressing which they may receive without much expense, will make them grow beyond any common treatment. Small plants, of short duration, as radishes, may, if desired, be placed in a separate bed. If the garden contains only half an acre, it will require only two hours to cultivate it thoroughly with a horse—or four hours each week, or two days per month.

"But a great deal of hoeing will be needed, besides the horse cultivation, will it not?"

No—not if our directions are attended to at first, in relation to allowing the seeds of weeds to infest the soil. The ground, when first prepared, is plowed and re-plowed, and harrowed and re-harrowed. This treatment, if continued for some time, will clear out all foul stuff. Then keep it out, by never allowing a single weed to be seen. Weeds multiply by the thousand fold—it is therefore cheapest to keep the soil *perfectly* free from them. The great error which most commit, is in *nearly* clearing the ground, and then stopping. The owner kills ten thousand or a million weeds, as the case may be, and leaves a thin dozen remaining. This neglected dozen multiplies a thousand fold, and produces a ten thousand. Be particular then, to kill the last dozen, and the last single weed. If nine hundred and ninety-nine may be destroyed, why not the single thousandth? It is easy enough if only attended to—and after the soil is once clean, the hoe is scarcely ever needed. The horse will do ten times as much useful labor in the same time.

If farmers will only adopt this mode of raising vegetables, and *carry it out perfectly* in all its parts; faithfully cultivate twice a week, and never allow the first weed to be seen,—they will be astonished at the small cost of abundant and constant supplies of the finest and most delicious garden products all through the season. But any half-way efforts will be failures.

ORCHRAD GRASS

MESSRS. EDITORS—In a recent number of the Co. GENT., under head of "Inquiries and Answers," a correspondent wants information in regard to orchard grass, as to its value for hay or pasture. With great deference I must dissent from some of your positions in the answer. I have had great experience in this style of grass, and have gained it at some cost. Its value for pasturage is on account of its coming on early in the spring, and remaining green late in the fall. For hay it is worthless, which will be soon seen. When allowed to ripen the stalks grow very large and coarse, and in spite of early cutting will be quite woody. In fact if the grass is cut when quite green, comparatively speaking, the dried stalks will resemble timothy hay that was cut when dead ripe. Cattle will refuse to eat it, when other hay can be got. It is like feeding so much splinters. The chief objection to the grass is that it has a tendency to grow in large clumps, leaving large spaces of ground entirely bare. Thick seeding will not remedy this for more than the first season. The quality of the soil makes no difference. It is impossible to make an even sward. I have plowed orchard grass sod when there would be great bunches of it two feet in diameter. If your correspondent desires a grass that will "smother" his daises, he must sow some kind different from the orchard grass. The best smotherer he can get is the plow, if his land is overrun with daisies. If there are considerable quantities of them, but not enough to destroy the value of the hay, the best plan is to pull the weeds before they mature. Several years ago my meadows were infested with what we call the "white top" weed. When they had grown large enough to rise above the grass, I had them all pulled up by hand. Continuing the practice each year, there are none to be seen now. It requires really but little time or labor to accomplish it. After the first year of pulling, but few weeds will come up. After a rain is the best time for this work. If your correspondent is wise, he will let orchard grass alone; if not wise, he will probably learn wisdom to his cost.

Jefferson Co., Ky. G.

CORN AFTER BUCKWHEAT AGAIN.

As your correspondents have answered so well the inquiry for the cause of ill success in growing corn as a succeeding crop to buckwheat, it may seem hardly needful that the subject should be further discussed; but as I think that the whole ground has not been covered by their answers, and that too little attention is paid to buckwheat as a farm crop, I offer a few words on the subject.

It has been abundantly shown by your correspondents, that, generally, we cannot succeed in growing a good crop of "corn after buckwheat," but many were unable to assign a cause. In an interesting article on this subject, the writer said, "I would not recommend any one to plant corn immediately after buckwheat; you need not ask me why, for I cannot tell you." This writer has shown us that he has grown a good crop of buckwheat on the same land for about thirty years in succession without manure, and therefore very reasonably concludes that it is not a very exhausting crop. It is well known that corn requires a dry and warm as well as rich soil; and the universally admitted superiority of inverted green-sward for this crop, goes to show that as every furrow of such sward-land forms an underdrain during the forepart of the season, while we have heavy cold rains, and while the springs are high, that land on which buckwheat has been grown the previous year, from its cold compact condition, is not well suited to the growth of corn, especially in the forepart of the season.

The luxuriant growth and heavy foliage of buckwheat so effectually smothers all other vegetation, and as it admits and even requires that the land should be cultivated so late in the heat of summer, that everything in the soil becomes so effectually decomposed as to render the land for the succeeding crop so compact as not only to retain, but also to bring to the surface, by capillary attraction, so much water as to render the land more impervious to heat and air than the most tenacious soil, and therefore not adapted to the growth of corn.

As a succession crop, buckwheat has no equal. It may be sown after early varieties of winter wheat and winter barley, or where either of these crops have winter-killed, and may be sown so late that it may be positively known whether or not the *winter-killed* crop will pay. It may be profitably grown, also, after early peas, and on land where turnips, from drouth or other cause, have failed to grow; and where the land is not very dry, it may be sown after an early crop of hay has been mown. It has been said that the chinch-bug, which is so injurious to the wheat crop in the West, will not injure wheat that succeeds a crop of buckwheat.

An acre of buckwheat is worth to a bee-keeper who keeps but a half-dozen swarms, as many dollars additional profit.

Very generally buckwheat has been doomed to grow on what (at the time of sowing and planting spring crops,) might be called a frog-pond—among the clods of the valley, and on hill-tops too poor to grow good white beans or decent mulleins. I. I. *East Shelby, N. Y.*

BARN-YARD MANURE.

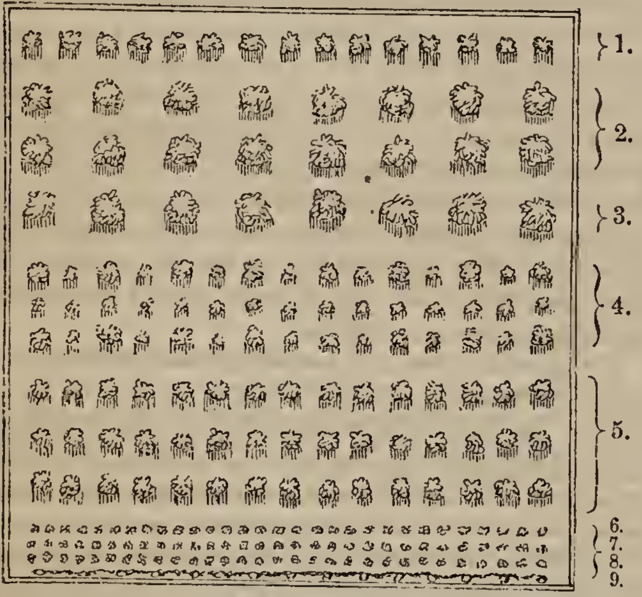
EDITORS CO. GENT.—Having been a constant reader of your journal for some time past, during which interval I have been much benefitted by the many and valuable articles I have read on all subjects pertaining to Agriculture, and seeing that you are at all times willing to insert in your paper information that may benefit your readers, I offer this as an excuse for encroaching with a simple statement of what I have witnessed on a friend's farm in New-Jersey, or rather his method of *composting manures* produced on his place. There is not the care given this subject that there ought to be; for the manure heap to the farmer, is his reserve guard, and if this fail in fulfilling ing its duties, he must fail also.

The general practice of farmers throughout the country, of pitching the manure from their stables and cow-sheds, into the open barn-yard, exposed to the rains, which wash more or less of its soluble inorganic constituents away, besides subjecting it to the rays of the sun, causing an immense loss by evaporation, and also allowing the organic gases, carbonic acid, ammonia, etc., which are generated during decomposition or fermentation, to escape, is a most negligent and careless way of doing things, and opposed to all true economy, for he loses the most valuable part of his manures. Near my friend's barn is a long shed, constructed of common boards. The manure from the stable and cow-sheds is removed to this shed every morning. When five or six inches in thickness, a layer of pond mud or muck is added to the mass. This prevents the escape of any gases that may be liberated during decomposition, by absorbing and retaining them. The whole heap consists of alternate layers of barn-yard manure and pond mud. The stalls are so constructed that the liquid drainage passes into a deep recess made on purpose, along side of the manure heap, and from there it is thrown over the compost once and sometimes twice a week. In case the liquids from the stable and sheds are insufficient, the requisite quantity is added from a large cistern near the shed. The liquid prevents all fire-fanging or burning of the manure, causing the labor of forking over to be entirely dispensed with; this alone is quite an item saved. During my visit in the spring, I had a chance to witness the appearance of the manure, as it was carted out from the shed, and it looked to me more like rotten cheese than barn-yard manure. Every particle seemed to have thoroughly rotted, and not a vestige of straw could be discerned in the entire heap.

Staten Island. E. C. F

LAYING OUT A FRUIT GARDEN.

In consequence of several inquiries how to lay out a fruit garden so as to secure the most perfect as well as economical horse cultivation, we are induced to give the accompanying plan, suggesting, however, some modifications according to circumstances. A chief reason why so many of the fruit trees which have been planted in this country have failed to produce satisfactory results, or have perished in the hardening process, is the want of provision for inexpensive culture. Many trees are set out where they cannot be well cultivated except by the tiresome and costly process of hand spading. They are either entirely neglected, or else small circles are dug up at the foot of the stem, which do little good, as the great mass of the roots have extended far beyond these circles in every direction. These stunted trees bear very little fruit, and very poor at that; and the owner wisely concludes that Mr. Blank, the nurseryman, has sent him a miserable lot of trees, which bear nothing but small, scabby, half-flavored specimens. Had these trees received the same attention that has been given to the cheaper plantation of corn and cabbages, the conclusion would have been, "what splendid trees Mr. Blank has furnished me! such large crops of beautiful, juicy and delicious fruit, and only five years since the trees was set out! I advise you all to buy trees of Mr. Blank."



1. Plums—2. Cherries—3. Early apples—4. Standard and dwarf pears—5. Peaches—6. Raspberries—7. Gooseberries—8. Currants—9. Grapes.

But to the plan. It is represented as square in the figure, but it may be oblong if more convenient—the rows being cultivated both ways, the time expended in turning the horse about the shorter way, will be compensated by the less frequent turning the longer way. Although the trees are of different sizes, and planted at different distances, it will be seen that they run in straight rows in both directions, and admit of cross cultivation—thus saving much hand labor. In the plan about an acre is intended to be included—the size to vary to suit the wishes of the owner. This acre will contain 132 trees, besides the raspberries, gooseberries currants and grapes. It will be seen that the first row is plums—the side of a square acre being 209 feet, there are 15 trees in the row, each 13 feet apart, and occupying a strip of ground 20 feet wide. A light hurdle fence may be placed between the plums and cherries for a few weeks during the curculio season, so that pigs and poultry may be turned in under these trees for the destruction of this insect. There is no locality, however abundant this insect may be, and however uniformly barren the trees as a consequence, where a combination of the jarring process with this pig and poultry remedy, *if both are thoroughly carried out*, will not produce constant and heavy crops. The great mistake generally made is doing the work by the halves—not turning in animals enough, nor following up the jarring process closely, without a single intermission as long as an insect is found. It often happens that both cherries and early apples are strong where this is the case, and where there are plenty of animals to turn in, the hurdle fence may be placed between the early apples and pears.

The cherry trees are represented as standing 26 feet apart in the row, and each row occupying 20 feet in width. This may seem too great a distance, but it should be remembered that cherries are much less liable to rot when they have plenty of room, so that the air can circulate freely between the trees. It will doubtless be an improvement on this plan to plant dwarf instead of standard cherries, in which case they may be set as thickly as the plums, or 13 feet apart and the rows 15 feet, leaving more space for the pears. There are 16 standard pears represented, and 29 dwarf—the latter occupying intermediate spaces, and yielding to the former when superanuated. This mode of mingling the two sorts is common, and generally approved; but on the whole the best way is to have them separated, for the dwarfs, if well cultivated and pruned, and not allowed to overbear, will last a long time; and while they continue to interefere somewhat with the best growth of the standards, the latter will seriously affect the dwarfs by their taller growth. We are inclined to think another improvement may be made by planting dwarf apples instead of the standard, provided the soil is strong and fertile. If worked on the Doucin stock, they will be healthy, vigorous, and grow large enough to produce valuable crops, as we have proved by several years experience, having trees of six or seven years planting, that bear from two to four bushels annually. If this change is adopted, the single row of eight early apple trees, (shown in the plan,) occupying 25 feet, may give place to two rows containing 30 dwarf trees, and which may comprize both summer and autumn varieties. The three rows of peaches, containing 48 trees, occupy 60 feet, and the trees are 13 feet apart; to prevent them from extending beyond these limits, the heads must be kept pruned in, which may be easily and rapidly done early in spring by the use of pruning shears. Cut off one, two or three years' growth, as may be found best adapted to securing a symmetrical head, sufficiently thin towards the outside to let in the light. This pruning will cause the trees to continue vigorous, and to bear large and excellent fruit, far beyond the ordinary life of a peach tree which is neglected and allowed to bear too many, and small and inferior specimens. A row each is given to raspberries, gooseberries and currants; about 5 feet in width should be occupied by each row, and a part of the raspberry or gooseberry row may give place to the New Rochelle blackberry, which should be summer-pruned and kept snugly within bounds, according to the mode described and figured on page 94 of current volume of Co. Gent.

Strawberries are planted in a separate enclosure, as they would interfere with the perfect cultivation of these trees.

In answer to the two inquiries, "how soon may we expect a good supply of food after the trees are planted, and how many months of the year can we be supplied with fresh fruit?" we may reply: The gooseberries, currants and raspberries will begin to bear well in two or three years, and sparingly sooner; the dwarf pears will commence bearing in about three years, (they should not be allowed to bear sooner,) and in six or eight years will yield abundant crops. The same remark will apply to the Doucin dwarf apple trees, and dwarf cherries, except that less care is required to prevent overbearing. Peaches and plums, and standard cherries, apples and pears, will vary in their time of bearing with the different sorts, but may be relied upon to yield handsome crops in five to ten years.

The portion of the annual circle which these fruits will fill up is about as follows in the northern States: The earliest cherries will ripen by the middle of June; later sorts for a month or more afterwards. In the meantime currants and raspberries will come in, closely followed by the first plums, and by early apples and pears about the middle of summer. During the latter part of summer and the first half of autumn a large number of varieties of plums, pears, peaches and apples will furnish a profusion; and later varieties of most of these, together with grapes, will extend the supply into winter. It is not intended that winter apples and winter pears should occupy this enclosure, but be raised on larger orchard trees. If the supply of these is large enough, and they are kept in good, neat, clean, dry and cool, and properly ventilated cellars, they will extend the supply until the next strawberry season. The winter pears, however, will need more attention in effecting a perfect growth and maturity than the apples. Native grapes, if the vines have been well pruned and cultivated so as to ripen the bunches perfectly, will keep plump and fresh until spring; but if badly pruned and imperfectly ripened, they will wither if dry, and rot if moist, long before mid-winter. The best keeping native grapes are the Isabella, Rebecca and Clinton.

For the best mode of laying out the ground and planting the trees see the excellent directions with the accompanying figure on page 174 of volume XXI of the COUNTRY GENTLEMAN.

CULTURE OF ROOT CROPS.

I write this paper for the benefit of farmers who have poor farms, and may wish to cultivate root crops. My own farm is high yellow clay land that bakes very much after showers, and underlaid with limestone, with a small part alluvial creek bottom. It had been forty years cultivated in corn and oats, and was pretty much worn out. Desirous to raise some roots, such as parsnips, carrots, sugar beet and Swedish turnip, I began on the creek bottom, never having raised a root before, except in the garden. I I plowed deep, harrowed fine, and proceeded throughout my culture according to the best experience as laid down in agricultural publications. I was much pestered with weeds, and did not raise more than half as many bushels to the acre, as is reported by those more successful than I was.

An accident induced me to try the cultivation of these roots on the upland clay part of my farm. In a spare part of my garden, salsify, parsnip, carrot, beet roots of the largest size, were selected and planted out early in the spring for seed. My practice is to select and take off when ripe, the center umbel for seed, of the parsnip and carrot—the rest of the seed falls to the ground. Late in the fall the carrot seed will come up and stand the winter. Being pressed with work till late in the spring, the piece of ground that had been appropriated to raising the seed, was not plowed up till June, when the gardener who had been directed to plow it, came and told me that it was a pity to plow up such fine roots, for they were larger than those we had planted with care in the spring. Upon inspection and consultation with the gardener, I determined to let the ground remain as it was, covered with volunteer carrots and parsnips. The next winter, many parsnips were dug from this volunteer patch, that measured 5¼ inches across the crown, and had penetrated the ground 18 inches in depth, and all were of good size. They had received but one hoeing in the season of their growth, and that was in July.

This experiment led me to believe that roots could be successfully cultivated on my high clay grounds. Accordingly, I directed one of my servants of "African descent," to plow half an acre with my largest plow and stoutest horses, as deep as he could, and run the subsoil plow after him in each furrow. After he had it thus plowed, rolled and harrowed, and made it in as fine order as he could, I directed him to lay the ground off in furrows two feet apart. If any clods turned up in the furrows, they were beat to pieces. Then I directed him to haul from the manure heap, after beating fine, as much manure as would give a good coating to the furrows—then take his plow and turn the ground on each side of the furrows over on the manured furrow; then with the roller the furrow was smoothed down, marked off, and planted about an inch deep. After the seed was covered, each furrow was covered over with rough manure from the stable yard, about four inches thick. This rough manure keeps the ground in fine condition during the winter, protects the seed, and imparts all its qualities to the ground. Early in the spring the rough manure is raked off between the furrows—the seed springs up early and keeps ahead of all weeds with a little attention, and the cultivation is greatly lessened. The after culture is to be done with the cultivator between the furrows.

The great advantage of sowing the seed in the fall, is its early vegetation in the spring.

I am also of the opinion that roots raised on high ground keep better through the winter, are more saccharized, and afford more nourishment to stock, than those raised on rich alluvial soil. All observing farmers are aware of the great changes that take place in the growth of corn. According to the experiments of Dr. Salisbury with corn, from the 30th August to 18th October, sugar increases from 3.67 to 13.32. Starch from 1.04 to 56.30. Water decreases from 90.80 to 8.45. This analysis teaches a valuable practical lesson. It shows that during cultivation nine-tenths of the plant and grain are water. So in rich alluvial soils, more water is taken up by roots, and less time is allowed in the fall to saccharize and mature them, and hence the largest amount of nutritive matter is evolved in the upland dry clay soil.

I am also so strongly convinced of the value of volunteer parsnips as food for hogs, that I intend to plow and pulverize well two acres, and sow broadcast, which will afford them good picking, or rather rooting, next winter.

I am satisfied that all my stock prefer parsnips to all other roots, and that it affords more nourisment than any other. J. C. J. *Melmont*, *Harden Co.*, *Ky.*

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☞ It is stated that farmers in the south of England are talking about feeding their cattle on wheat, because it is cheaper than anything else. Oilcake is £11 per ton, while wheat is only £9 per ton.

MANAGEMENT OF MANURES.

Messrs. Editors—After receiving and reading this evening, an earnest invitation to attend a political meeting, and the account of the arrest, by Gen. Bragg, of Bishop Polk, because he did not attack Rosecrans three hours earlier on Sunday morning than he did, and also reading the soothing letter of Bishop Hopkins in reply to the protest of Bishop Potter of Pa., and forty of his clergy, to the letter of Bishop Hopkins written in 1861, I took up the Country Gentleman, and soon found myself interested in the much more rational and profitable discussions at the New-York State Fair, on "the best mode of husbanding and applying manure."

For what it is worth, I determined to give you my experience upon the same subject. Some years ago I found it convenient, as I hauled hay from the field to the barn in July, to take out return loads of manure, (well-rotted clover chaff,) and apply immediately as a top-dressing. I never saw a more instantaneous, striking or durable effect from any application of manure I ever made. In the summer of 1862 I repeated the experiment from my horse stables, but to my disappointment there was no verdant after-math as in the first application, nor was there any corresponding improvement in the hay crop of the present year. The failure of the after-math I attributed to a drier autumn; but the failure of an improved hay crop the past season, can be attributed to no want of moisture, for a wetter winter and spring we have seldom had.

The spring and early summer being frequently too wet to plow, I employed my teams in hauling manure composed of stable, barnyard and roadside scrapings, (the latter being almost mire when got up and thrown into heaps,) into an unplowed and well-sodded field intended for wheat fallow for the present autumn seeding, and deposited in layers in a large heap about five feet high. In this heap during the summer, I buried a dead horse, a dead sheep, and two or three dead hogs. To-day I am cutting down and carting out this heap of manure to be harrowed in with my wheat, and a more fatty, unctuous mass I never saw—apparently far superior to any stable or barnyard manure I ever before used.

I have now in course of preparation for another experiment in top dressing grass-land, a compost heap composed of some eighteen or twenty head of Government beef-cattle, intended for the army of the Potomac, buried in a mass of old wheat straw and chaff, and covered with earth. A neighbor has about forty buried in a fallow field. These cattle herded near me and partly on my premises, and died suddenly at the rate of ten or a dozen a day, during the hot weather towards the close of the month of August, from some unknown disease, but supposed to be the bloody murrain. A number of men who assisted in skinning and disposing of them were seriously poisoned, their hands, arms and faces being much swollen and inflamed for some time, and a number of hogs died from eating the flesh of these dead cattle. Out of a drove of fifteen hundred, nearly one hundred died in a very few days.

There, you have my chapter on "the best mode of husbanding and applying manure." A Maryland Farmer.

What Kind of Clover to Sow.—A writer in the Rural New-Yorker, gives the following opinion:—"In answer to an inquiry, let me say that I would sow the medium for hay, pasture, or for plowing in. It starts earlier in the spring, and grows rapidly, consequently you have a larger growth to turn under early. For hay it is far better, for you can get your crop of hay and a crop of clover seed the same season, and some pasture after it; and for pasture alone it will produce more feed throughout the season. I have raised both the large and medium more or less for the last thirty years; have grown them side by side in the same field, and prefer the medium—I sow no other."

THE WHITE WILLOW FOR FENCING.

It has become a well settled axiom, that all new discoveries in agriculture require time to adopt them into general use. It has required nearly twenty years to learn how, (that is for the farmer in general,) to make a fence of the osage orange, and even now more than half the attempts are failures. Because thousands of farmers fail to grow fruit, is that any reason why no fruit should be grown?

In no one thing have our farmers made less progress than in cheap and durable fences. In a country where timber is plenty, the old Virginia fence is yet the most popular, and to this day our groves bear testimony to the wasteful uses of the timber for this kind of enclosure. There is no part of the west where the farmers can afford to use up their timber in so wasteful a manner. The post and board fence is less objectionable, only because it requires less of the raw material. Live fences must take the place of dead ones as a general thing, not only for their cheapness but for the effect they will have on the climate and in the production of better crops.

For a substantial hedge the osage orange stands at the head of the list, but this plant will only thrive on well drained land. It is therefore of importance that we seek some other tree that will adapt itself to our great variety of soils and situations. Thus far the white willow gives promise of being the most valuable for this purpose. It is at home in the woodland swamp, in the prairie slough, and on the high rolling land where alone can grow the osage. On the very dry land its growth is not so rapid as in the low land, yet it is no less hardy. Cuttings, put down early in the spring, in all kinds of soil, will grow and need not fail. The tree does not sucker, but can be easily trained into a good fence. To know how to do this, is of no small importance. There is a general impression among people that willow cuttings, cut at any season after the leaves have fallen, will grow if set at almost any time in the spring, but this is not the case.

The demand for live fences is greater than at any former period, and if osage plants could be had, millions of them would be set out the next season. It is not probable that any great amount of seed of the osage can be had before the spring of 1865, and it will be another year before the plants will be ready to set, and then they can only be used on dry land. In two years the willow will have a good start, and in three to four years more make a good fence. Aside from the fence the willow has other values—shelter from high winds, and in the division of estates and changing of fences which is so often occurring, the willow fence is very valuable for the number of cords of wood that it will furnish. It is one of those improvements that is steadily adding to its own value.

We look upon the discovery that some of our forest trees are adapted to the making of live fences as a new era in agricultural progress, that will make rural pursuits more a pleasure, and certainly add to their profits. The heavy drain on the farmers' resources constantly made by our system of dead fences is the great drawback to other improvements, and one of telling effect against the prairies and from which there has thus far been no escape, but we trust that this old man of the sea will be thrown off or exchanged for lesser burdens.

We must have shelter from the prairie winds, not only for orcharding, but for our field crops, and to accomplish this we must plant belts of timber in addition to our fences; we must use some material that will answer for both purposes. These elements have all been demonstrated by the white willow in an eminent degree. It is then a loss of time to wait for the end of the war to grow the osage.

We would not have our people lose sight of the osage, by any means, for along roadside, the garden and orchard, that need protection from pigs, boys and poaching men, it is of great value, and cannot well be dispensed with.

Preparation for the Fence.—It is necessary to success that the place intended to set the plants should be fitted during the autumn. A strip at least a rod in width should be plowed deeply, by either trench plowing or subsoiling. If but a narrow strip is plowed, it is too apt to dry out, and kill the plants, as young willow plants cannot stand a drouth to good advantage. This season we have seen them die after attaining two feet, and large numbers at six to ten inches. The ground should therefore be prepared to the depth of a foot, be thoroughly harrowed and rolled, so as to leave it in fine tilth. We need not tell the farmer that to grow a cutting the soil must be finely comminuted, yet it will do to oft remind him of the fact, as it is too often overlooked in the preparation of the soil for this purpose. It must be borne in mind that the preparation of the soil must be completed in autumn, as it is not to be disturbed in the spring on no account, for so soon as the frost is out sufficiently to thrust down the cutting in the soft soil, it must be done. If you delay until the soil is settled, the work cannot be so well or so easily done. The willow is the first tree to put out its vernal growth; and to give it a good start must have the advantage of the moisture of the soil. If this is attended to, and the soil in good order, the plant will become so well established that no subsequent drouth can do more than to check its growth.

The Cuttings.—These can be taken off from the fall of the leaf until the time for setting, but not at any time you choose within this period, for when the wood is frozen the work of cutting must be suspended. We have no doubt that a large share of the loss of cuttings the past season came of cutting when the wood was frozen. The bark in spots turns black, and the vigor of the cutting is lost. All orchardists and nurserymen know the bad effect of pruning when the wood is frozen in winter, and need not be more surprised at the failure of cuttings than at the failure of scions cut in a frozen state. We think this point has been entirely overlooked during the past season. We have no doubt that the very best time to take off the cuttings is late in the winter, on warm days; when taken off at this time, if exposed to some extent, so as to become considerably shrivelled, they will recover and make a vigorous growth, but if cut in a frosted state, as we said before, they turn black in spots, and the cutting after throwing out feeble roots, yields to the first adverse condition of the soil.

Size and Age of Cuttings.—Two years old wood is the best, and should be used on all occasions of setting in grass land, but cuttings of all sizes can be made to grow if carefully attended to, as before directed, though we would recommend that none less than the third of an inch in diameter be used in the fence row, and an inch is still better. We have always advised our readers to sort out their cuttings, making two or three sizes, and to set each size by itself, so that their plants will make a uniform growth; the large cuttings, being the most vigorous, we need not say they are the most valuable.

Now that good cuttings can be had at reasonable rates, we would not take the tips as a gift.

Cuttings from the East.—During the past winter we saw numerous samples of willow cuttings from the east, but few of them were the genuine white willow. One of our neighbors purchased eighty dollars worth of a lot from the *powder district* of Pennsylvania, not one of which is genuine. That there is genuine white willow at the East we are well aware, but the temptation to send out all sorts of willow cuttings last winter was too great to be withstood, and hence many of our dealers were imposed upon. As most of the cuttings are dead, little has been done aside from the loss of money and time.

Distance Apart.—We still adhere to a foot as the proper distance to set the cuttings, and these in a single line requiring five thousand and three hundred to the mile.

Protection.—All farm animals will browse the willow, and the consequence is that the young fence must be protected from stock for at least three years, when if the growth is good the plants will be out of the way, and the trimming of the lower branches will do no harm. Osage must be protected in like manner for some length of time.

The Cost Per Mile.

Five thousand three hundred cuttings, $6 per M.,	$32.00
Preparing land,	5.00
Setting.	2.00
Cultivating and hoeing,	7.00
Cutting back second year,	2.00
Cultivating second year,	3.00
	$51.00

This makes the cost 16 cents a rod, with cuttings at $6, the present price of cuttings of half inch and upwards, 10 to 12 inches long. The best of the cuttings from the fence thus cut back will do to set new fence, and the saving in making another mile the second spring will be reduced to less than 8 cents the rod. When we take into consideration that a fence can be grown in five or six years at so small a cost, it is the worst of economy to put it off to another year.

Cost of Osage.

Eleven thousand plants, $6 per thousand,	$66.00
Culture same as willow,	19.00
Total,	$85.00

At a cost of 27 cents a rod. But this is upon the hypothesis that the land is all well drained. In ordinary hedges we see no need of cutting back either the willow or the osage, but both can be thus treated at about the same cost, though the willow will not require cutting more than once in two years, and if the cuttings are of any value, this will be in its favor.

The more we examine into the value of the willow fence the more are we in its favor, of which we intend to show living facts.

Hedges are sometimes cut down on the division of estates, and the changing of the boundary of a field; in that case our willow fence will be worth one or two dollars a rod beyond the cost of removal, while the osage will be of no value, and will cost largely for its destruction.

We cannot close this already long article without urging the necessity of planting of live fences, as the first dogma in the creed to profitable farming. We have much more to say in regard to timber planting for fuel and other farm uses, but must forbear at this time.—M. L. Dunlap, *Editor Illinois Farmer.*

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Durability of Timber.—The piles sustaining the London bridge have been driven 500 years. In 1345 they were critically examined, and found to have been decayed but slightly; these piles are principally of elm. Old Savory Place, in the city of London, is sustained on piles driven 650 years ago; they consist of oak, elm, beach and chestnut, and are perfectly sound. The bridge built by the Emperor Trajan over the Danube, affords a striking example of the durability of timber in the wet state. One of these piles was taken up and found to be petrified to the depth of three-quarters of an inch, and the rest of the wood had undergone no change, though it had been driven 1,600 years.

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Killing Wasps.—Wasps are not so plentiful this season as might have been expected from the mildness and dryness of the weather. I have to-day destroyed three colonies in the following manner: Having discovered the entrance to the nests in the ground, I took about half a pint of tar in a ladle and poured part of it in the hole, and the remainder round about the orifice of the hole. This was done in the forenoon. All the wasps that were in the nest were caught in their attempt to come out, and those that were out were caught in their attempt to get in, so that none of them have escaped.—Probatum est. [This is no doubt the most effectual mode of dealing with those which build under ground. In Scotland, we have what some say is a distinct species, others that they are the same, which construct very curious and often very beautiful habitations on the branches of trees. Those are best secured by drawing a bag over the nest late in the evening, and tying the mouth of the bag tightly up, severing the nest from the branch and immersing them in water for the night, and next morning shaking them into the fire.]—*Scottish Farmer.*

Amateur Farming in New-Hampshire.

Eds. Co. Gent.—The hard handed farmer of our hills as he goes forth to the somewhat monotonous round of his daily labor, is apt to look with sovereign contempt on the essays of the men of wealth who may have ventured up from Boston, or in from New-York, to try the effects of a few thousands on the soil where he spent his early boyhood. He seems to think the tile drains, the new plows, the mowing machines, the neat fences, the renovated farm house, the fancy barn with costly cellar, the prodigious "fowl house," altogether beyond his reach, and a whistle too dear for him to think of blowing.

This is not entirely wrong, or without plausible grounds. The mere amateur is apt to indulge some impracticable fancies, and to ride very expensive hobbies. Nevertheless his influence in both cases is good. The most hopeless slattern is not without some remains of pride and ambition, sure to be touched by example. The sturdy farmer may sneer and profess warm delight in his own ways, but the tall grass, the luxuriant grain, the noble corn, the serviceable stone walls of his neighbor, silently appeal to his understanding day by day, and will work out some fruits of good in some direction soon.

This train of thought is not new to your readers, for the Co. Gent., so far as I can judge from several years attentive perusal, ever goes in for "grafting the wild olives." It was immediately suggested, however, by a visit to the grounds and farm of William Stark, Esq., situated in Piscataquog, a pleasant suburban village of the city of Manchester, N. H. Mr. Stark having determined to devote some of his ample means to the improvement of that soil which his ancestor, "John of glorious memory," defended with the sword, has recently purchased, in addition to an already extensive domain, a hundred acres lying on the Merrimac, and bounded on the left by the Piscataquog river. The natural capabilities of the spot are equal to any in the most favored regions. Fine expanse of upland and of meadow, heavy growth of old wood and native vines, such as justified the words of Whittier when he sang of "grapes from the vines of Piscataquog."

This hundred acres, sloping toward the sunrise, is to be laid out as a *park*, including preservers for fish and game of all kinds. A bare list of the rare creatures now in the grounds would swell this letter to the size of a tolerable catalogue. The rabbit warren is thoroughly stocked, and among the various specimens are the Madagascar, the English hare, the Honduras or Agoute, and the common rabbit, while a few guinea pigs give zest to the crowd. The woods are full of partridges, and grey, red and striped squirrels, while ring doves and fancy pigeons ruffle and strut in all directions. There are the silver crested and golden crested Hamburg fowls. The Leghorn, the grey Dorking, the Java, African and Seabright bantams, Japan silk fowls, pea fowls, bronze and silver grey turkeys. The artificial streams are frequented by Rouen, Aylesbury and Cayuga and Muscovy ducks. The wild stock is yet more curious and interesting to the lover of natural history, consisting of Canada, Bean, Egyptian and Barnacle geese, wood ducks, Chinese and English ring-necked pheasants, and magnificent white mute swans, whose habitat was formerly on the Thames near London. To render the attractions of the park complete, there are Borneo goats and beautiful spotted deer.

It must not be imagined that Mr. Stark, who unites a poetic taste with a very practical mind, has neglected the useful for the ornamental. His Alderney, Ayreshire and Durham cattle are of the best imported stock, his improved Suffolks, that almost take on fat from "snuffing up the east wind," were purchased of John Giles of Connecticut, and he drives on occasion a span of Black Hawks equal to any family team in the State. He has also some very fine Leicester sheep.

Altogether the arrangement of the grounds, although not yet completed, is beginning to assume a pleasing appearance, and the feathered and furred denizens excel any similar collection in New-England, if not the United States. Visitors are freely admitted at all times, and thus the beauties of the estate contribute to the gratification and instruction of hundreds. I submit the question to the Co. Gent. if it is not wiser to spend money thus, than in the summer amusements of Saratoga? Certainly there is much to be learned and many valuable suggestions to be obtained by a visit to Mr. Stark's farm in Piscataquog. There are some other items in my note book on matters pertaining to the agriculture of this region, which may sometime be written out if this be deemed worthy of publication. F.

Strawberries---Three Best Sorts for Family Use.

As I am a little puzzled about strawberries, please do me the favor to give me a list of the three best sorts for family use, in the order of ripening, early, medium and late, my taste being partial to a mild sub acid, and the Triomphe de Gand being my standard of excellence. At the late meeting of the Fruit Grower's Society of Western New-York, (as reported p. 250 present vol. Cult.,) many horticulturists present differed widely, and they don't seem to have placed the sorts in their order of ripening. We have the Early Scarlet and Hovey's Seedling in our market, but to make them at all palatable, we have to use full as much sugar as berries. M. G. *Washington, D. C.*

We cannot recommend a list with confidence, as the sorts vary with locality and treatment, and individuals differ greatly in their estimates. There is no very early mild flavored sort; the Scarlet and Jenny Lind are the best for very early ripening; the Hooker and Triomphe de Gand will probably suit our correspondent best for later sorts; Burr's New Pine, a rather feeble grower, and discarded by some, possesses an excellent flavor, and is a fine berry. There are a number of new sorts highly recommended, some of which may prove valuable, but they need further trial.

A Word to Dairymen about Lanes.

Eds. Co. Gent.—Show me a farm with 100 acres of land without a lane. It may be fifty rods in length; it may not be more than ten. You may occasionally find a farm without a lane, but very seldom. Four-fifths of the lanes in the State do not answer the purpose for which they were made. They are usually so narrow that they get muddy at all wet times during the year.

I contend that no good dairyman will allow his cows to travel a lane twice a day, where the mud is from one to two feet deep in any place in said lane.

Now the best way to have a dry lane, and one where the cattle cannot hook each other, is to have one eight or ten rods wide. You need not say that it is waste land, for there is not as much waste land in a lane twelve rods wide, as there is in one only three. My lane is ten or twelve rods wide, and it is the best pasture I have for its size. Lanes are generally the richest part of the farm, and should therefore be changed every three or four years. Muddy yards and lanes have more to do with regard to the health of cattle, than most farmers are aware of. If you will keep your cows out of the mud, you will not be bothered with your cows having sore teats, or cow pox, which is the worst kind of sore teat.

Cows will do better if fed only twice a day, and have dry yards and stables, than if fed three times and are obliged to stand in mud six inches deep. Mud is a nuisance, and one that the dairyman should avoid if possible. RALPH.

HIGH PRICES FOR PRODUCTS.

Many farmers suffer a great deal of anxiety—some of them pass sleepless nights in thinking how they shall obtain the highest market price for their products. Should they happen to sell before the highest figure is reached, or delay selling till prices have gone down again, disappointment and chagrin prove a lasting source of discomfort to them. Between the anxiety beforehand and the fretting afterwards, they are in a great measure unfitted for a close attention to their business, and it may be questioned whether they do not lose ten times as much in other ways than in failing to hit the market exactly. Two adjoining wheat farmers, some years ago, had a surplus of grain to sell. Prices were then high, and farmer A. concluded that if he received $1.75 for his crop he would sell, which he did shortly afterwards. Farmer B. held on to his, and a few weeks later made the exulting remark, "You have sold too soon Mr. A., and I can now get $1.94 for my wheat, and I mean to get $2 yet." "Very well," replied A., "I hope you will. I am quite satisfied with what I received, and think it a good price, and I would not have had the anxiety which you have experienced and the constant inquiries you've had to make, for the additional price which you get. I have had the subject off my mind, and have been actively engaged in other profitable business." Farmer B. kept his wheat for the $2, which it never reached, and the next year, after much further negotiation and some loss by rats, sold his crop for $1.25. Intelligent and experienced men can frequently make shrewd guesses on the future market; but these guesses often prove wide of the mark, as is shown by the heavy losses or failure of long-headed produce dealers. It is impossible either for stock-brokers or tillers of the soil to know when prices have reached the exact summit, and very few are so fortunate as to hit this point. They should not aim at it, but be satisfied to receive fair, remunerative prices. Produce dealers are often ruined by paying rates a good deal below the pinnacle, and farmers should not expect to receive rates as an average which shall break down dealers. We have known some land-owners who "saved at the tap and wasted at the bung," who are very close with their neighbors in adjusting line-fences, and who are noted for crowding their lines a little too far into the highway; yet who would allow all the land thus gained, and twenty times as much besides, to be run over with mulleins, Canada thistles, oxeye daisy, and johnswort—who would banter half a day to save a few cents on a good bargain, and yet allow whole fields to be diminished in product by neglected cultivation, or domestic animals rendered poor and unmarketable by want of diligent management and proper attention.

The best rule, undoubtedly, when prices are low, is not to spend one's whole time in endeavoring to get a little more, but to raise better crops, and make larger profits on home management. The difference between good and bad cultivation is often the difference between a full and half crop; and while our best managers scarcely ever fail of receiving twenty-five or thirty bushels per acre, poor farmers, who trust to luck and hope rather than expect to raise a good crop, will not average half this amount. In other words, they waste a hundred and fifty bushels on every ten acre field, and lose, say, about a thousand dollars on every fifty acres sown. The same difference occurs in the corn crop. We can point to several farmers who do not fail even in unfavorable seasons to raise sixty or seventy bushels per acre, while others, through neglect and nothing else, either in draining, previous manuring, or other preparation, or from a want of cultivation and general management, do not average thirty bushels. They have poor cattle and poor sheep, and do not receive one-half the prices obtained by some of their apparently fortunate neighbors, who have long since discovered that diligence is the mother of good luck. If these thriftless farmers would spend less time in splitting farthings in a bargain, and more in rolling out a rich and abundant harvest, or in raising smooth, heavy, fat animals, instead of raw bones and landpikes, they would find the newly adopted system greatly in their favor.

Every man who gives diligent attention to his business, should be allowed to make fair profits. The produce dealer must be one of these, or his business would cease; and he must, sometimes, obtain heavy gains to compensate for his frequent losses. Farmers should bear this in mind, and not be too eager to obtain the last cent. Those who have thriven and arrived at wealth, have generally done so by all proper attention to their land and crops, which they could control, rather than to the markets, which they could not.

THAT SEVEN ACRES.

Messrs. Editors—When I purchased this place, in the spring of '59, there were seven acres clayey loam, on a rather steep side hill, and nearly in front of my house, which had the appearance of being very poor, and that year produced but 1½ tons of poor hay.

I broke it up that fall—in the spring manured it well before plowing, and sowed it with oats—had a tolerable crop. Plowed (subsoiled it) in the fall, manuring again before plowing in the spring, and planted it with corn and potatoes, which proved to be the best in the county. Plowed it in the fall, and prepared 2¾ acres of it for timothy, which I sowed alone in the spring, without covering, The seed started well, but the weeds gained the mastery. and when I mowed it I expected to have to plow again.

This spring timothy and red clover, about equal, took the land, and on the 30th of June I put into my barn 9½ tons of the best of hay, and on the 27th of August 3 tons more, making 12½ tons from 2¾ acres, in place of 1½ tons from 7 acres.

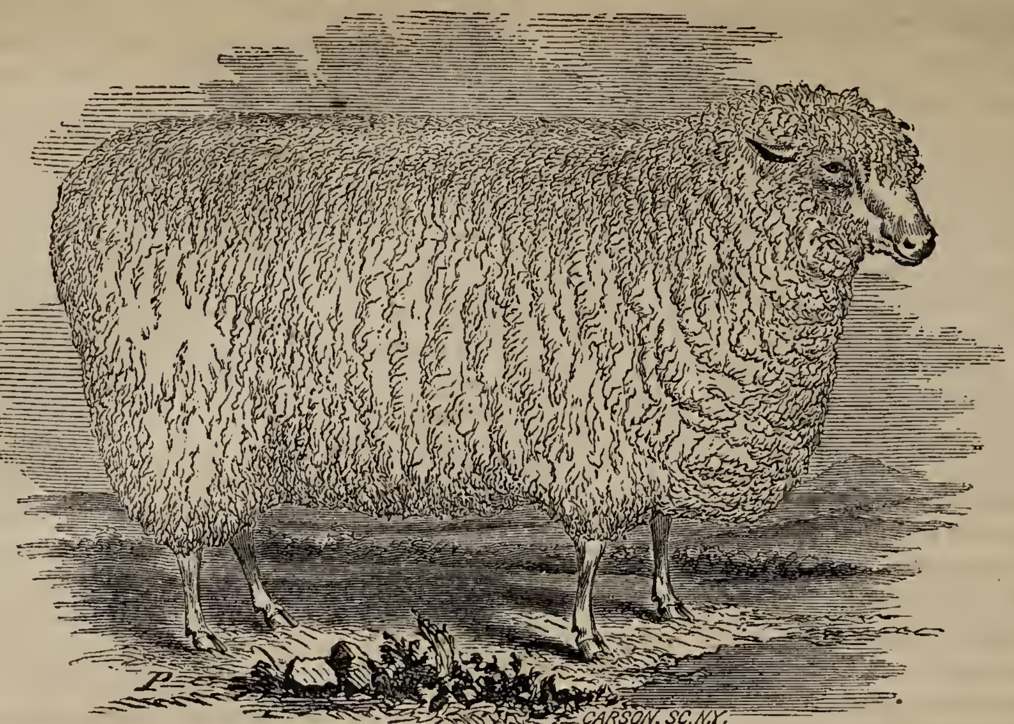
The balance of the 7 acres was planted with choice fruit, and upon it now stands a thrifty orchard of apples and cherries, and a good crop of potatoes and carrots, and next spring I shall seed down this part as the other.

Bright Bank, Ulster Co., Sept., 1863. J. B. S.

Treatment of Cheese when Ready for Market.

When cheese is ready for market and about to be shipped, it is the practice with some Dairymen to apply to each cheese a thin coating of varnish made from gum shellac.

The shellac is simply dissolved and applied with a brush. This coating gives the cheese a smooth, glossy appearance, and, besides adding to its beauty, is said to keep the cheese from losing weight or gathering mould. When cheese, well cured and shipped in the fall, are to remain in store several weeks or months, it is claimed the above treatment is particularly beneficial, as serving to keep them in better condition, with less loss, and at the same time adding so much to their appearance as to induce readier sales than when not so treated. We have never made trial of gum shellac for this purpose in our own dairy, but are assured by some of our best dairymen, that its application has been practiced by them with decided advantage; and as gum shellack used in this way is perfectly harmless, we see no reason why it may not be employed for the purpose indicated, especially as decided advantage is claimed from its use. X. A. Willard.


CARSON. SC. N.Y.

THE COTSWOLD RAM "PILGRIM."

This ram, of which a good engraving is above presented, was lately purchased by S. M. Fox, Esq., of the Manor House, Livingston, Columbia Co., from the flock of H. G. White, Esq., South Framingham, Mass. He was bred, we believe, by Fred. Wm. Stone, Guelph, C. W.

Sheep Husbandry in Vinginia.

As economy is the order of the day, with your permission I will give you my experience in sheep. I own a good large tract of land in the Blue Ridge, Madison Co., Va. I bought it with a view of raising fine wooled sheep. But I have one tract of about 700 acres, called "Wallace Quarter," which I bought with a view of letting me out to the road, which I propose to offer as a specimen of my tact in economical wool raising, and if you can add anything to it, you will confer a favor to myself, and perhaps others.

The land was bought in 1859 and 1860, at about $6.25 per acre, but as the survey overran, it did not cost quite as much. A fence all around, made and put up out of beautiful chestnut, 12 feet in the clear, and 8 rails high, making a worm fence about 5 feet high, with two cross fences in the same manner, at $1 per hundred, making four fields of about 180 acres each, all opening into the barnyard. Three of these fields are belted, and are native, spontaneous and permanent Blue grass pastures. I give each field one week's grazing and two week's growth. The other field is divided into six shifts, without any cross fence, making 30 acres each. Every year one of these shifts is put in corn, well worked, and with the last working one bushel of rye is plowed in to the acre, after which half a gallon of timothy, half a gallon of clover, and one-fourth pound of ruta baga to the acre, are sown on top of all, which is all done with a one-horse plow called a "ripper," being a kind of shovel plow four inches wide and about one foot long, well put in, and all the implement of husbandry on the place, and a man and boy do all the work except the harvesting. The first thing gathered is the corn; the next the turnips, and the rye makes a fine pasture all winter and until the blue grass is fit to turn on the next spring, when the rye is permitted to grow and be cut in the usual way, and a fine feed it makes for stock in the form of chop feed. This is all the cultivation this field receives, and one shift is treated in like manner annually.

The sheep are of the Spanish and Silesian Merino stock, and were bought of Messrs. Chamberlain of New-York, and Campbell of Vermont, and cost me about $9.00 per head on my farm. They shear a little over seven lbs. in the dirt. There were 800, mostly ewes; sold a good many, and had 1200 left when last heard from.

We never wash, considering it a fruitful and frightful cause of disease. We got, in peace times, 35 to 40 cents in the dirt, (being very good) at Richmond, Va.

Our sheep house forms three sides of 100 feet square frame, 2 stories high, 20 feet wide, and will hold 1,200 sheep and 100 tons of hay conveniently. The southern front consists of a picket fence, 16 feet high, and gateway large enough to admit a four-horse team in the yard, and go out without damage. M. Garrett.

Washington, D. C.

Treatment of Fat Cows before Calving.

In reply to your correspondent "Quebec," who wants to know how to reduce a Short-Horn heifer, to put her in proper condition for calving in December, the heifer having had only grass during the summer, I would say that she is probably not too fat to calve safely. My experience is decidedly in favor of having cows, especially Short-Horns, (and sows too by the way,) in high condition. I never had a mishap. It is natural to Short-Horns to carry flesh when dry, and I should not be afraid of all the fat that grass would put on a growing heifer. At the same time I would use Mr. Bowly's precaution, viz., to give one or two doses of Epsom salts (for quantity see Youatt,) a few weeks before her time expired. If, however, "Quebec" has not faith in this, I would caution him against any violent treatment. Poor pasture is the most severe safe expedient. It is dangerous to try to reduce an animal quickly. I have several heifers coming in in January, that are first quality beef now, and I shall feed them liberally (though not with grain) until they calve, and better afterwards. T. L. Harison.

Morley, Oct. 6.

TWO DAYS IN MASSACHUSETTS.

In no State, perhaps, do the County and Local Agricultural Societies manifest greater activity and prosperity, than in Massachusetts. The statute fixes the limits within which each organization shall act; and, in counties which show a desire and capability of sustaining more than one Society, others have arisen within a few years past, with varying degrees of success, of course, but many of them now awakening as much interest and eliciting as large exhibitions as were drawn out by the Society originally representing the whole county. The days of exhibition are *made more of*, apparently, by the places in which they are held, than is the case even in this State; they are gala days for every body, scarcely, if at all, second to "Fourth of July" in the general estimation. In the neighborhood of all the larger towns, the attention to the growing of fine Fruits, particularly, has advanced so greatly within a few years past, that this department becomes a more important feature than it is here, with some few exceptions; and, as the display of the Horticultural and miscellaneous contributions, (the latter including ladies' work of every sort) is often held in some public Hall immediately accessible to the whole place, very large numbers are drawn out to spend an evening or a day amidst the fruits and flowers, the embroideries and paintings and domestic goods, who might not find it so convenient to visit the open grounds generally occupied by our Societies.

Thus, in the county of Worcester, which is the largest in the State, there are now four Agricultural Societies—the parent, with its head-quarters at Worcester,—Worcester-West, at Barre,—Worcester South east at Milford, and Worcester North, at Fitchburg. At the Show of the last, we were present in pursuance of an engagement, on the 30th of September, and a brief reference to some points of difference between it, and those of our New-York Societies, may not be without interest to our readers. Under its jurisdiction are included twelve or fifteen townships, and the foregoing remarks will apply in a general way to the manner in which the exhibition is conducted. The upper floor of the Town Hall, a handsome and spacious apartment, was occupied by tables filled with orchard and garden and household products or manufactures; while the "common" or open square near by, was taken up for temporary pens, containing the Live Stock exhibited—the latter being thus free to the view of every body. The streets were crowded constantly, and almost to their full capacity, from 7 in the morning to 4 or 5 in the afternoon; and a more orderly, intelligent and well-dressed company of the size, we have never seen together.

There are few of our Societies which devote as much attention, not only to systematizing the programme of their shows, but also to making this programme known. Both are points of much importance, especially when but one day is occupied by an exhibition, and where such a programme contributes vastly to making everything run smoothly and satisfactorily, if it is thoroughly understood and *lived up to*. Tuesday, the 29th, was devoted to the previous arrangements, and to the examination by the Judges, in the afternoon, of the in-door articles at the Hall. The Hall was first opened to the public in the evening, at an admission charge of ten cents, and over *twelve hundred persons* visited it. For Wednesday, the chief day of the Exhibition, an enterprising merchant in the place had printed the programme in full on the reverse of his business card, and these cards, liberally distributed, were so convenient for reference that we copy one of them as an example:

Agricultural Exhibition

AT FITCHBURG, ON WEDNESDAY, SEPT. 30, 1863.

Town Hall open at.	7	A. M.
Plowing on River Street,	9	do.
Draught Horses and Steers,	10½	do.
Working Oxen.	11	do.
View of Horses and Colts.	11 to 12	do.
Carriage Horses.	12 to 1	P. M.
Dinner of the Society,	1	do.
Address by L. H. TUCKER, Esq.	2	do.
Meeting of the Society for Speeches, Poem, Award of Premiums, &c.	3	do.

HON. OHIO WHITNEY, JR. CHIEF MARSHALL.

The Ashburnham Band will be in attendance Tuesday Evening and Wednesday.

On Wednesday the receipts at the Hall, (at 10 cts. each, as before,) were understood to have been upwards of $250; at the church, in which the Address and other exercises took place, and at the general meeting afterward, no charge for admission was made. The church was well filled, and not so much by the ladies and others of the place, as by farmers themselves.

The plowing match attracted, we think, as large a number as we ever saw present at such a trial—the field being closely lined with interested spectators. A pleasant feature was to notice the quiet manner in which the oxen were trained to do their work—without any of the loud words and frequent blows which sometimes attend such labor. Another very good idea is this: while there is a class for plowing by boys under 21, they are also encouraged to compete in the same classes with adult farmers, and, if successful in competition with them, the amount of the award is *enlarged one-half*—a very pleasant incitement for the young, to excel, if possible, their seniors. The same is done, we believe, in the trials of draught horses, steers, and working oxen.

Of the stock and articles exhibited, we have not room to speak at length, and it may seem invidious to select some for especial notice to the neglect of others. But the Short-Horns brought by H. G. White, Esq., from the distant town of Framingham, and those of Messrs. A. C. and J. G. Wood, and A. O. Cummins of Milbury, should not be passed without mention; the Messrs. Woods, we think, also exhibiting South-Down sheep, and Mr. White, Cotswolds. J. T. Everett of Princeton and James Puffer of Westminster, were the leading exhibitors of fat cattle, and among contributors to the cattle pens, from other towns, were some of the best farmers of Fitchburg, Ashburnham, Winchendon, Lunenburg, etc.

The editor of a Massachusetts paper (Mr. BURT of the Northampton Free Press) who attended our State Fair at Utica, expressed great surprise, in the account of it prepared for his paper, that no more attention should have been paid to it by the leading newspapers through the State. We could not wonder that this neglect of an exhibition in which the Farmers of the whole State were interested, struck him so forcibly, when we found at Fitchburg reporters present from no less than *five* of the leading daily journals of Boston, fifty miles or so distant, and two from Worcester—all these papers containing the next day full reports of the prizes awarded, and many of them extended notices in detail of the various departments. Such an example is a good one to place prominently before the newspapers here,—the conductors of which have quite as great an interest in promoting the success of organizations designed for the improvement of our Agriculture, and probably number as large a proportion of their readers in the Farming community.

In the Hall there was an admirable collection of Fruits, so far as size and quality are concerned, although smaller in the quantity shown, we were told, than has been the case for a year or two past. The display of Apples included some very handsome plates and assortments, but the great features were the pears and grapes—all from local exhibitors, and showing most forcibly, how greatly the taste for and popular acquaintance with these two kinds of fruit have advanced within a comparatively short time. Indeed we were assured, that both in this respect, and as regards improved stock, a wonderful change has been affected during the ten years since the Society was organized. Among the pears, the assortment of Dr. Jabez Fisher, and the different varieties shown by Messrs. Leathe, Crocker, Boutelle, Lawyer, Works, Twichell, and others of Fitchburg, and Mr. Fay of Ashby, included many plates rarely excelled in size and beauty; and, among the grapes, remarkably fine Delawares were exhibited by C. A. Emory and others, very large and handsome Concords by W. G. Wyman and Dr. Fisher—Dr. F. also contributing Rebeccas, Dianas, Delawares, and a number of other sorts. There were several other quite large exhibitors. The show of Vegetables was very good.

Dr. Fisher's Orchard and Forcing House.

So much for the exhibition. We spent the night at Dr. FISHER'S, and had the pleasure of testing some of the premium grapes and pears more fully. Of the Flemish Beauty, just in season, the Doctor had some unusually large samples, but it is not a variety on which great dependance can be placed. Of the grapes, the Concord proves itself the best market variety, some of the clusters and berries being large enough to resemble Black Hamburghs; the Delaware is the favorite of all for flavor; the Hartford Prolific is a free bearer, but must be marketed at once, as the berries drop from the cluster after a little time, while the Concord, although somewhat behind the Hartford in time of ripening, can be kept until the greatest glut of the market is over, and sold along at intervals until the last of October.

Dr. F. has a farm of thirty or forty acres, which, except for the production of a limited quantity of milk, is devoted to orchard and garden culture. He exhibited over 60 varieties of Pears at Fitchburg, but the half-dozen which may perhaps be considered to take the lead for practical purposes, are the Bartlett, Beurré d'Anjou and Doyenné Boussock on pear stocks, and the Louise Bonne, Duchesse d'Angouleme, and Urbaniste on quince. Out of 1,600 or 1,700 pear trees, we did not learn in what proportions these and other varieties were chosen—proportions change from time to time, as some are discarded and others taken to fill their place. In the orchard, which is planted in the quincunx arrangement, giving three ways for cultivation,—the purpose being to produce *fruit*,—the surface is frequently cultivated throughout the season, and Dr. F.'s experience convinces him of the correctness of the arguments so frequently advanced in these columns in favor of this system, as compared with attempting to raise grass or anything else but fruit on the same land. While the trees were young, small fruits or other crops were planted between them, but as soon as they began to come into bearing, the land was cleared, and is now cultivated at intervals sufficiently short to keep down the weeds,—not with that object alone, however, but for the actual benefit the trees are found to receive from the stirring of the soil. Dr. F. considers this equivalent to a dressing of manure. The implement used is the common Knox cultivator or horse hoe, penetrating about three inches below the surface; and, during dry times, this pulverized top soil proves capable of retaining the earth beneath it in a moist and mellow condition, in which the trees thrive vigorously enough, instead of being dried and baked top and bottom alike, as might otherwise be the case.

The curculio is a great enemy here to the growth of all sorts of fruit, depositing its eggs in the apple and pear, as well as in the plum. The injuries from this cause have been very greatly diminished by the careful picking up of all the fallen fruit from the beginning of the season until about this time, every other day regularly. Such a disposition is made of it, for cider or otherwise, as to prevent the reproduction of the insect in a very great degree.

Of apples, the Baldwin is the best market variety—productiveness, price, and adaptability for various purposes in eating and cooking coming into the account. As an eating apple alone, the Hubbardston Nonsuch is a great favorite.

Coming now to the Vineyard, which covers about two acres, and contains about one mile of trellis, the following is the system of planting and training adopted:—The lines of trellis are 17 feet apart, with a row of Bartlett pear trees midway between them, and three rows of strawberry plants—one between the trees and the trellis, and another in the same line with the trees themselves. The trellis is constructed with chestnut posts two inches square and ten feet apart—the end posts two by four inches. It has four wires fifteen inches apart, upon which Dr. F. trains the vines in a manner similar to that recently described by the editor of the Horticulturist—which gives the two upper wires to alternate vines, and the two lower ones to the remainder, so that each vine has a length of trellis equal to twice the distance between the vines, and two wires, one below for the support of the canes, and the upper one for the support of the fruit-bearing shoots. The trellis runs north and south, up and down a hill-side of moderate inclination.

No manure is applied to the vineyard, but the same system of constant cultivation adopted for the orchard, is carried out here; and the horse-hoe was at work between the rows at the time of our visit. The strawberry plants are kept entirely separate from one another, a foot apart, and no runners allowed, except to a sufficient extent to supply the demand for new plants. Dr. F. finds the *early planting* of new beds (or rows, in his case,) much more satisfactory than to defer it into September and October; if we understand his system rightly, as soon as the fruiting season is fairly over, each row is in turn plowed up, and the runners, reserved in the next one, set out to occupy its place, until the whole field is thus renewed.

While on the subject of Strawberries we may add that an important branch of Dr. F.'s horticultural practice is the production of this fruit for winter and spring as well as summer consumption. He sent strawberries into Boston last year, from the 15th of February continuously untill the 15th of July, a period of five months. Although the Bostonian taste is shocked by bare mention of the Wilson's Albany, (not to venture farther and suggest that human beings *can* possess palates so vitiated as to admit of actually buying and eating it,) we were somewhat surprised to find this variety apparently ranking at the head for market purposes, here on Dr. FISHER'S grounds, just as it does in Eastern Pennsylvania, and in a great many other parts of this large country of ours. Dr. F. thought he would rather raise it, out of doors, for 15 cents a quart, than any other variety at 20, if not at 25; while, for forcing, it succeeds admirably—its flavor, sweetness and color are all improved, and no other sort he has yet tried compares with it in the success obtained. In 1862, he had one thousand plants in pots for forcing, and there are 1,400 now ready for the next crop. Six inch pots are taken, filled with leaf-mould, and early runners allowed to take root in them. Just as soon as the runner has fairly rooted, it is separated from the parent plant. It is thought important to discourage the growth of runners from the new plant, as it lessens its vigor for fruiting, and Dr. F. was so successful in this, last year, that scarcely a dozen plants out of 1,000, had sent out runners when they were taken into the house.

The house is 18 feet by 106 in length, span roof, running north and south. It is *double glazed*, with an interval of about an inch between the lights—and this precaution is thought to save about *one-half* the fuel required—an important point where coal is $10.25 per ton. The house is in quite an exposed situation, but 10 or 11 tons will carry it through the season. The heating is done by a boiler which Dr. F. had made to suit himself, and thinks much cheaper and *quite as satisfactory* as the patented arrangements advertised by New-York houses in some of the horticultural journals. It is two upright cylinders of boiler iron, respectively 26 and 24 inches in diameter, one within the other—thus leaving an inch all around filled with water. The top is also double, the water there occupying a space of 1½ inch. In the top, there is a hole large enough for the admission of coal, and the fire is made upon a grating far enough above the floor to leave room for the ashes,—the draft coming in from a flue at the side with a valve regulating the amount of air to be admitted. The height of the cylinder is 30 inches, which is greater than necessary—giving a capacity of something like 20 inches depth for the burning coal, a larger mass than is required in practice. The fire never goes out through the season, and a chimney high enough to clear the roof gives sufficient draft. The house is divided into two sections, the heating apparatus being in a wing near the middle, and a double line of pipes conveys the hot water from the top of the boiler clear around the house and back again around it before entering at the bottom, with gates by which it may be shut off from one section of the house at pleasure. Dr. F. has devised a very simple and efficient means of regulating the draft, of which we hope to present a full description hereafter.

The house is almost wholly devoted to the forcing of grapes and strawberries—the latter occupying shelves around the exterior, the former on elevated borders along the centre. These borders are filled with a mixture of one-third white sand, one-third mould and one-third cow-manure. The vines are in 13-inch pots, made especially for Dr. F., with five holes, an inch to an inch and a half diameter in the bottom, through which the roots make their way into the border. The Black Hamburgh is the main dependance, and the system adopted is to propagate from buds taken in January, by which means vines are grown that will fruit well the second season—indeed Dr. F.'s vines begin to ripen ther fruit in from 27 to 28 months from the starting of the bud. Only one crop is generally taken—the vine being then thrown away, but occasionally one is cut back closely and retained for a second fruiting.

Dr. Fisher's success as a fruit-grower led us to inquire thus particularly into the details of his management, of which we should like to present a less hurried account. It need scarcely be said that he sends to market no *imperfect* fruit of any kind. The out-door grapes and strawberries, as well as those that are forced, and the pears and apples, are all assorted large and handsome specimens, and the prices obtained are consequently much beyond those for which mixed fruit generally sells. He is doing something in the propagation of seedlings, from which we shall hope to hear in the future—having, for example, 140 seedling grapes derived from the Delaware, fertilized under glass with great care with the Black Hamburgh. It is too soon to judge of them yet, but they seem to escape mildew, so far, better than their progenitors.

Other Calls.

Our next call was at the farm of W. G. WYMAN, Esq., the able and efficient Secretary of the Society, but the length of the notes already prepared will obliged us to speak very briefly of what we saw there and elsewhere. Mr. W.'s grounds include much that we should be glad, if time and space permitted, to notice at length, but must pass them by, merely mentioning the grapes, from one of which (a Concord vine) a short branch had been cut for the exhibition containing *twenty* large clusters, and, among farming matters, the sheep—a cross between the Cotswold and Leicester. Mr. W. has a very neat way of marking his sheep, by brass medals, which can be procured at about $1 per 100, attached to the ear with a slit ring, his initials and the No. of the sheep stamped on the medal.

After a passing call upon Gen. WOOD, who was not at home, we proceeded to the farm of Mr. ABEL F. ADAMS the present representative of the Society in the Massachusetts State Board of Agriculture. This farm lies in full view of Dr. Fisher's place, so that we had already had occasion to admire its clean, well-built walls, the perfection of the grass land, and the evident neatness and order pervading the whole. The purpose of the farm is the production of milk; it contains about 100 acres, and Mr. A. milks 12 to 15 cows in summer and about 20 in winter, but, as he is constantly buying and selling, he often has a larger and sometimes a smaller number to look after. The total stock kept on the farm will average about 25 head in summer and 30 in winter. The cows are fed morning and night all summer—with hay until the 15th of June, then with clover, then with green oats sown for the purpose, then with fodder corn lasting say from the fore part of August for two months, and then with pumpkins, and, when the crop is as plenty as in 1862, sometimes with apples. One item in Mr. A.'s management is worth noticing especially: where the grass becomes poor on any spots in the field, overgrown with moss, as it sometimes is when the rock is close to the surface, or otherwise, he puts on a dressing of compost, and then about the middle of June harrows in *rye mixed with grass seed.* This is in the open pasture, but he thinks it none the worse for having cattle tread upon it, and before the season is over the rye gives them a good feed, and the next year the grass is renewed and becomes as good, if not better, than the rest of the field.

Mr. ADAMS has been one of the prominent movers in the Fitchburg Farmer's Club, as well as among the leading members and officers of the Worcester North Agricultural Society. His farming might afford no little instruction to our readers, and we should be glad if both he and our other Eastern friends would more frequently communicate the results of their experience for the benefit of those whose attention may be attracted by these imperfect notes. And we should not omit, in conclusion, to acknowledge the hospitable courtesies of L. H. BRADFORD, Esq., President of the Society, to whose attentions we owe so much of the pleasure of the trip. L. H. T.

ROTATION OF CROPS.

The discussion on this subject at the Utica State Fair (reported in COUNTRY GENTLEMAN of Oct. 1st) has elicited from Hon. A. B. CONGER, chairman, the following interesting statements:—

1. Though the climatic conditions of the State vary greatly in those particulars observed by the meteorologist, there is yet a law of uniformity with reference to the early occurrence of extreme heat and cold, drought and moistture, as well as of their transition periods which give to a very large belt of the State a fair average medium in respect to such conditions. These are quite necessary in a system of rotation of crops designed to meet the leading points of the question, to wit: a maximum annual cash revenue and the largest amount of rich fertilizing manures.

2. To apply this system wisely, it is first necessary to divide farming lands into those which are properly devoted to pasturage, and those which are strictly arable. None should be included in the latter class which may not be profitably used for deep tillage, and subsoiling.

3. Under this general division we notice the fact that in the present system of dairy farming, the producers of butter and cheese, which now bring large prices for exportation, (the statistics having been furnished in the discussion that 22,000 tons of cheese and 16,000 tons of butter had been exported from the port of New York in 1862, 75 per cent. having been shipped to English markets,)—that these producers are buyers of grain for the support of their dairy stock. It may soon be that instances will be found where the growers of tobacco, or some other high priced product, will extend the culture of such crops until they also are purchasers of ordinary farm produce. In such, and all specialities in farming which a state of the markets may justify for the time being, without stopping to notice the results of their general adoption, in the glutting of markets, &c., it is sufficient to remark that the farmer purchaser of grain for his stock refuses to make for himself the profit of raising that grain. While it is not the province of this society, in its discussions, to discourage any such specialities in farming, it certainly cannot undertake to give any encouragement to their future, or to any system of farming which discards the raising of Indian corn, the most profitable crop, the sheet anchor of American agriculture.

4. The five course system generally adopted in this State, on arable lands of corn for the first year, oats or barley for the second, winter grain for the third, and hay for the fourth and fifth, is no longer productive of the large returns sought for in this question; for where the cash sales are increased, whether of grain, or hay, or even of straw, the manurial products are proportionably decreased, and thus the capacity of the farm to pursue the course. The interposition of a root crop after the corn, with deep tillage and special manuring, as well as that of a clover crop after the spring grains, would tend to enrich the surface by the draft made by those crops upon the subsoil, and would increase the amount and manurial value of winter feeding.

5. At the present time, if corn for the first year were followed by roots as above for the second, flax might successfully follow for the third, (provided the system of water rotting the flax is wholly abandoned, and the outer boon or shove removed by proper machinery, and restored to the soil,) and would be found to exhaust it only to the extent of the seed sold, and in this way might be a safe crop for winter wheat to follow, and this with two years of hay, would make a six course system.

6. The four course system of England and the five course of the county of Onondaga are remarkable. The latter, better adapted to this country, is for the first year corn upon a clover and timothy sod, for the second oats or barley, for the third wheat, with 6 quarts of timothy and clover each and 1½ bushels of plaster; for the fourth hay, and for the fifth pasture. Under such a course, where all the coarse fodder and hay are consumed by sheep, and a few horses and cows for farm use, and only wheat and the produce of the fold sold, there is but little left for improvement, except in some regions in the introduction of roots and the feeding of them to sheep, and with straw to store cattle. The advantage would be marked in economizing the feeding value of straw.

7. One ton of good wheat straw, not over ripe, besides 34 8·10 lbs. of sweet oil of grateful odor to cattle, contains nearly 20 per cent. of good food, and water, and is about ¼ of the feeding value of the best hay. Of the remaining 80 per cent., generally rejected or passing off in the manure heap, and treated as insoluble woody fibre, nearly 20 per cent is soluble in dilute sulphuric acid, &c. It is more than probable that the pectic acid, &c., of the turnip plays the same part in rendering that portion of the straw which is insoluble in water alone, soluble and thus digestible. The English farmer keeps his store cattle fat through the feeding months of the year on straw and turnips rendered fine, and allowed to remain long enough mixed together to produce a slight action of the acid of the turnip marked by heat. The severity of our winters forbids the copying of this method, unless the heat may be kept up artificially, (perhaps by the process of steaming,) and economically.

8. The rotation of crops pursued in this country has been easily departed from by the farmer, who has not pursued the methods of deep tillage and high manuring, and is mostly a system of pliable adaptation to the state of the markets. In England a system of rotation once adopted is rarely departed from. We may note that while the price of ordinary farming land in this country has not advanced more than 50 to 80 per cent., the rentals paid by the English farmer have been advanced in the past 30 years from 1s. or 1s. 6d. sterling per acre to £3. 10 and in some instances to £5?

9. If a four, or six, or even an eight course system were adopted on an arable farm, say of 120 acres, and once established, the annual product of each farm would be, say on the six course system, 20 acres of corn; 20 acres of turnips and potatoes; 20 acres of flax, oats or barley; 20 acres of wheat or rye; 40 acres of hay; and the producer could determine for himself how much he could profitably feed to his farm stock, sheep or store cattle, &c., how much he could sell of grain and potatoes, hay and straw for cash, and how large increase in his manure heaps he would gain for the enrichment of his land, and the diminution of expenditure for special manures.

9. As no plan of such a system of rotation has been submitted in this discussion, with tables giving an estimate of the value of each crop in the series, or showing how much might be directly sold or how much profitably be fed to stock, with a careful measurement of the increase in the manure heaps, it is recommended by the Society to the Executive Committee that prizes be offered for essays based on experimental trials after the above methods on the best system of rotation to be recommended to the farmers of this State on their arable lands.

SYSTEM IN LABOR.

There is no subject which ought to engage the minds of our farmers so much as that of system. The student has his hours of study, his hours of recitation, and his hours of recreation. The merchant has his hours of thought, in which he closely calculates his profits or loss, and by it establishes a course of action; and so it should be with every class of professional men. System is the life of business, as well as the life of trade. Whatever our calling or profession in life may be, the more systematic we are, the more will our efforts be crowned with success, and vice versa. A man can hardly wish, much more expect to be successful in any profession—much more that of farming—unless he pursues a course that shall guarantee him success. And how absurd the idea that we, as farmers, upon whom every class of human beings more or less depend, and upon whom the best interests of our nation hang, should pursue a course so loose and hazardous. Has habit brought on such a state of affairs, or is it because our fathers and fore-fathers have tolerated and cherished the existence of such principles in our land?

We are a progressive people. Every year brings its wonders. Every day brings the news of some glorious event, and shall we stand in wonder and amazement and not urge on this glorious enterprise? Many may suppose that we are advancing in the art of agriculture, and that we keep pace with every improvement of the day. This is certainly true to some extent, but how obvious it is, were it not for a certain class of men and the influence of leading journals, we should fall far behind what we are now; and, too, should every class extend their influence, to develop new plans and resources, what a mighty influence we should have in the world. Thus you see we may lose ground, and if system does not enter our plans and exercises, we fall far in the rear of the other improvements of the day.

Agriculture is made a matter of too much indifference. Many embark in this enterprise, thinking that they are not fit for any other, and to their astonishment are not fit for this even. Such men only disgrace the profession, and by their influence clog the wheels of that vast machinery which more or less regulates the destinies of men. Man cannot prosper in any profession unless he first study the rudiments of that profession, and thus become versed in its design and operation. Too much knowledge and skill can never be achieved in order to be a successful farmer. Knowledge is useful in order to ascertain the elements of the soil, its combinations—the elements of the air and water; also the elements of all the various productions of nature—her varied scenery—her beautiful landscape,—all these present a field in which the mind may rove for successive ages, and then find room for thought. Skill is necessary in order that this knowledge may be rightly used—the way it must be applied to bring forth the greatest results. Ignorance, of course, has the opposite effect, whatever our profession.

What I wish to urge upon farmers generally, is more system a and more practical way of farming. Let each treasure up new facts, that when unfolded we may be better acquainted with our employment. Let farmers become more conversant with each other, and their habits and manner of conducting their business operations, enter more largely into their practices, if worthy of notice; if not, chide the same that each may be betterd by their example. And should public meetings be held in every school district every week, where matters of general interest may be sought out, it would certainly have a great effect upon community.

And we need not stop here; monthly associations should be held in every town, especially during the long winter evenings, where various topics of interest should be discussed. This would bring in every class of farmers, and where a spark of interest now exists in the breasts of any, it would be fanned to a flame. And town associations could report at their annual county associations, and make that more a subject of general interest. And in fact, some such method will have to be taken, that we may secure the patronage of every citizen of the county, whereas now scarcely one-half of the farming community extend their influence for its support.

We should be more systematic in our individual finances. Few can tell us the cost of a field of corn, of a bushel of potatoes, or any of the articles of produce. Few can tell us what it costs, estimating the price of produce, to raise a cow or fat an ox. Fewer know in what channel to turn their exertions, that they may secure the most profit. An account should be kept of every field. It should be charged with what is carried on to it in the form of manure, and credited with all it produces. An account should be kept of every cow, sheep, horse or ox, in the same manner. The farmer should know his gain or loss in every operation, and he would be prepared to direct his attention to that which would secure him the most wealth and happiness. He may balance his accounts with his farm, as a merchant balances his accounts with his customers, and know how he stands and what his profits are, every month. A man who carries on an extensive business may be involved in ruin, if close calculation and a correct system be not adopted. And this is why so many fail. A careless and loose plan of operation is most certainly productive of evil, and never will produce a a happy and contented state of mind. We should be more systematic in our hours of toil. One branch of business should never encroach upon another, but all be executed in its time and season, and then one will not be left at the peril of the other.

I am glad to say, that we are soon to see the day when every farmer's account will be as correctly kept as the merchant's, and his daily toil is becoming less and less wearisome. Let farmers look into this, and see if their co-operation will not bring forth glorious results.

Franklin, Sept. 14. P. J. SHERWOOD.

PROFITS OF SHEEP HUSBANDRY.

Every one says, "Oh well! sheep are worth something now, but it won't do to invest. Sheep must come down by another spring, and then where is your money?"

We buy sheep now at from \$3.50 to \$12, and from that to \$1500 per head. This last price is the highest of any sheep sale that I am acquainted with. We buy here good healthy young ewes from \$6 to \$8 each, and the best at \$12. I am not speaking now about full bloods, although we have them here. The sales in full bloods are not as numerous as among the quarters and half bloods. I think we can count on 50 cts. per pound for wool another year. Well, say we buy one hundred lambs at \$3 each, as I have seen several lots sold at that price, that will shear six pounds a head. Well, say they shear five to eight pounds each, at 50 cents, that would bring each sheep at \$2.75 a head. Cost of keeping lambs \$1 each—that will keep a lamb well, and after shearing, your yearlings cost you \$1.25. If you take a lot of old ewes, I have seen bought at \$4 each, that would shear five pounds each, at 50 cents for wool your sheep bring you \$2.50, and a lamb at say \$2. Then a dollar for keeping, and your sheep costs you fifty cents when it is sheared. These figures are set low, as lambs are selling here at \$3 instead of \$2. I cannot see how a farmer can lose money in sheep, at the present prices. Of course it won't do to go into the fancy prices just now; but good common farm sheep are well worth the prices asked.

FATTENING ANIMALS.

A very common error among farmers, which needs correction, is the opinion that animals may be fattened in a few weeks, and fitted for market by heavy feeding, or as it is termed, "pushing." Many farmers do not think of beginning to fatten their hogs or cattle for early winter market until autumn has actually commenced. Their food is then suddenly changed, and they are dosed with large quantities of grain or meal. This sudden change often deranges the system, and it is frequently some time before they recover from it. The attempt to fatten a poor animal in six weeks, reminds one of the puff advertisements to teach "French in six lessons." From observation and inquiry, we find that the most successful managers adopt a very different course—feed moderately, with great regularity, and for a long continued period. Regularity they find of the utmost importance, and they particularly avoid the course recommended by a correspondent a year or two since, to give "a feeding of meal now and then." The most successful pork-raiser that we have met with, commences the fattening of his swine intended for winter market, *early in the preceding spring*. We might almost say he commences the autumn before, for he keeps his young swine in a good rapidly growing condition all through winter. He always begins very moderately, and increases the amount gradually and with great uniformity, taking care never to place before the animal more than it will freely eat. With this treatment, and attending strictly to cleanliness and the comfort of the animal at the same time, his spring pigs at ten months usually exceed three hundred pounds, and sometimes have gone as high as four hundred and fifty pounds, and wintered pigs run as high as five to six hundred; the corn, which is ground and scalded before feeding, netts him one dollar per bushel, when pork sells at five cents per pound.

Our readers are generally aware of the opinion of John Johnston on the subject of the heavy grain-feeding of cattle, believing it to be attended with more waste than profit. This opinion has been corroborated by the careful experiments of a number of farmers, and among others, an accurate and enterprising neighbor, who weighs all his animals weekly, informs us that a fine steer when fed regularly each day with four quarts of barley meal, gained eighteen pounds per week; being urged "to push" this animal, he increased his feed to eight quarts daily with a diminution in his growth; the feed was then increased to twelve quarts, when he scarcely gained at all. Another, and an extensive cattle-fattener, informed us that he and a neighbor commenced fattening each a fine steer at the same time; the neighbor's being the heaviest on the start. Our informant fed four quarts of meal daily; his neighbor, twelve quarts. When they were slaughtered, the latter was the inferior animal of the two in weight.

Another instance has recently occurred to our observation, illustrating the position here taken. An old cow, naturally raw-boned, was fed by the owner with the view of converting her into beef, commencing about the middle of autumn, or as soon as the corn was ripe, with the hope of turning her off to the butcher about the first of winter. She was stuffed with all she could eat, and by the end of the year had scarcely gained in weight. The owner concluded that she did not take on flesh naturally, that there was no use in trying to fatten her, and she passed into other hands and different treatment. Before winter was over, a regular system of feeding with barley-meal was commenced, first with only a pint each night and morning, which was afterwards gradually increased to a quart. In a few weeks the improved appearance of the animal was quite visible; she was placed in good pasture, and by the middle of summer her feed had been gradually increased to two quarts each night and morning. By the first of autumn she had become fat, sleek, and beautiful, and was sold for a good price to the butcher.

Intelligent farmers differ as to the propriety of feeding meal at all to pastured cattle; some insisting that it only destroys their appetite for the grass, and that if fed on the latter alone, they will improve in condition more rapidly and steadily than in any other way. This is certainly not true with all animals, as, for example, with the case just mentioned; but there are others which have a natural propensity to flesh, that seem to improve best on rich pasturage alone, doubtless partly in consequence of the long continued and regular supply of good food, which they thus receive, as contrasted with sudden and irregular grain feedings. We should be glad to receive the results of every carefully tried experiment in relation to this point from our correspondents.

What we wish to urge more particularly at the present time is a caution against the common error of attempting to fatten suddenly by over dosing with grain and meal as a sort of compensation for the previous starvation and raw boned system of treatment. Instead of beginning to fatten just at the last stages of an animal's life, the work should be commenced as soon as it is born, at least so far as preserving a good growing, healthy condition right onward, without any interruption through winter and summer. Farmers who practice on this plan make the largest profits, and can dispose of their herds at any time at high prices for cash in hand. Their less successful neighbors term them "always lucky," but do not seem to be aware of the truth of the old saying, that "diligence is the mother of good luck."

ALBANY COUNTY FAIR.

The Albany County Ag. Society held their Fair on the Washington Parade ground in this city, commencing Sept. 29, and ending Oct. 2. The weather was just what is most desirable for such an occasion, and the multitudes who visited the exhibition seemed to enjoy it to a high degree. The arrangements were well made, the buildings and accommodations for the show as complete as could be desired, and the whole management reflected credit upon the officers of the Society. The exhibition however was, though good in some respects, not what it might or should have been. Several of the fine buildings, as well as many of the pens, were nearly empty. But though, like most other Fairs from which we have heard this year, there was a deficiency in numbers, most of what was on the ground was of superior quality.

Upon the whole the Fair passed off as satisfactorily as any previous one of the Society, and the receipts, about $4,000, were equal to all the requirements of the Society.

Thomas' American Fruit Culturist.—For a short time this valuable work was not to be had, and we were obliged to leave several orders unfilled. We are now able to supply it, and those who have heretofore written us on the subject may therefore depend upon receiving it promptly on the arrival of their orders—price, $1.25 per copy by mail, postpaid.

PYRAMIDAL TRAINING OF GRAPES.

During a visit some time ago to the extensive vineyards of Dr. UNDERHILL, and of his brother, WM. A. UNDERHILL of Croton Point, they pointed out the importance of allowing the vines sufficient room to extend themselves, especially in a soil of much fertility—rich soils requiring higher trellises and greater distance for the vines. Soils of moderate fertility were preferred. All attempts to dwarf this vine, by cutting back freely and planting closely, had been found useless long before Bright had published his famous dwarfing system, and afterwards discovered its fallacy when applied to free-growing American sorts.

We have often heard the remark that the Isabella grape bears better when allowed to extend itself among the branches of trees—this is doubtless for the reason already given, namely, plenty of room for its growth. This mode has been lately modified, by providing supports for the vine similar to those often provided for ornamental climbers, by inserting into the ground the stem of a tree, with the branches trimmed and cut off at a uniform length from the body, but tapering upwards in the form of a pyramid. The vines, properly trained on these, and thinned during the summer, present a beautiful display when loaded with the ripened purple clusters. The best kinds of wood for these supports are cedar and locust. The former gives the handsomest shape, but locust trees may be occasionally found that answer an excellent purpose with some care in the training. The smaller, short-jointed and more feeble growers among the American sorts may be trained on smaller supports, or to single stakes, if the following mode, described some years ago in the Ill. Annual Register, is adopted, with a little more height to the posts, and more space between them: Stakes eight feet high are set seven feet apart, a vine planted at each, and immediately cut down to two eyes. The first year two shoots are allowed to grow, and are carried up spirally, both in the same direction, about five inches apart, around the stake, till they reach the top. The laterals grow at random. They are pruned back in the fall to eighteen inches, and the laterals to one eye. The second year, two shoots are carried up as before, from the two upper eyes, the laterals requiring summer pruning. In the fall the vines are cut back to within eighteen inches of last year's wood. This course is continued till the vine permanently covers the whole of the stake or post—whatever surmounts it is cut back. The fruit is borne on the side shoots, the pruning is done on the short spur system, and a handsome pyramidal form is given to the whole.

MILK FROM ONE COW.

Mr. W. A. Comstock of Cooperstown, who says he has a "passion for good cows," sends to the Co. GENT. a table in which is registered the weight of milk produced by one of his cows at each milking for the six last days of May and the months of June, July, August and 29½ days in September. The cow was milked and the milk weighed by Mr. C. during the whole period, and was as follows:

Last six days of May,	261	pounds.
June,	1,549	do.
July,	1,475	do.
August,	1,188	do.
September,	1,315	do.
Total for 127½ days,	5,788	pounds.

Being an average of a fraction over 45 pounds per day for 127½ days.

Mr. Comstock says: "My cow is of the native breed, so far as I can learn, and five years old last spring. She was not dried off before calving, but continued to give milk up to 22d, when she dropped her calf. We began to save her milk the 26th of May, as shown in the record. No one has milked her but myself, or weighed her milk. 112 pounds of her milk makes 6 pounds of as good butter as I ever saw. Now for her feed. She is one of five cows, or of four cows and a heifer, kept on three acres of pasture, days, (until the after feed,) and stabled nights, and fed cut grass and the slops of the house, without grain or provender. The past week she has had two pumpkins a day besides the above."

Practical Experience of Farmers Wanted.

MESSRS. EDITORS—I have been much interested this summer reading the many letters from different ones in your excellent paper, giving descriptions of the country about them, or accounts of the crops, &c. I should be much pleased for one, and doubt not many others would be also, if these letters were more frequent.

The season of severe labor is nearly over with a majority of farmers; their time is not so fully occupied, and a few lines from their varied and abundant experiences would be very acceptable and profitable. There are scores and hundreds of these men, scattered all over this State and other States, who have much that they might tell us that would interest and instruct some—excite and encourage others.

I have many times wished as I have been travelling the different thoroughfares of this State, and have seen scattered here and there a thrifty farm, that I could stop and talk with that man, and ask him as many questions as I liked. We do not know these men, not even their names; but that matters not; they are good farmers, for their fences, out-buildings, and luxuriant crops, show it—and if you could only sound the man, you would find he had not labored all his days to no purpose, but rather that he had learned a great deal from experience and observation that was new to you, and consequently pleasing and profitable to hear. If you could only go over his farm with him, and have him point out to you this improvement and that, and here him tell you how he came to do this thing that way and that thing so, you would find he did some things to a better advantage than you, and that his sphere of observation had led him to results you had not thought of.

Now I do not expect to visit one of a thousand of these farms, nor hear from one-half their owners; but what I do want, is that those who can write anything they think would be new or interesting, to do so; and if they only will, we shall hear from the storehouse of their experience something that will interest and instruct us, and help to while away the long winter evenings so close at hand.

In a few days I will let you know where we live, and what we are doing up here in this rugged mountain county of OLD ESSEX. *Westport, N. Y.*

We heartily second the call of our correspondent, and trust he will set our readers a good example in the articles he promises.

To Prevent a Horse from Pulling at the Halter.

Tie a rope around the neck, put it through a hole in the edge of the manger, and tie it around the fore leg below the knee, and when the horse pulls, the rope will slip through the hole and pull up the fore leg, and he will soon give it up. T. L. HART. *West Cornwall, Ct.*

THE CULTIVATOR.

ALBANY, N. Y., NOVEMBER, 1863.

☞ Rev. Dr. **Fisher**, in the Address prepared for the late State Fair, but prevented from delivery by the drenching rain of Friday, expresses many suggestive thoughts in a forcible and eloquent manner. "Precisely the same principle," he justly remarks, "prevails here as in all other departments of human labor, the principle that intelligence, other things being equal, makes the superior farmer and mechanic." After illustrating and enforcing this idea at length, and showing the consequent importance of Education to the farmer, he briefly but earnestly urges that a higher standard of education among them would probably bring about one much-needed change,—namely, a choice of men for positions of public trust, who would feel that they were answerable, for the way in which it is discharged, to the intelligent judgment of the Farmers of the State; and who, in view of this motive, would give that weight to the influence and interests of the producing class which it fairly merits, although as yet unattained. Dr. F. says:

> "When mindful of the importance and dignity of your profession,—no longer suffering the man whom you elect to represent you, to override your own best interest—your voice shall be heard in our Legislature, as a power not to be resisted, then we shall see a new and nobler order of things rising around us. It was one of the earliest lessons taught me by parental lips, not to speak evil of dignities. And though sometimes the impulse to do it is strong, I do not intend to yield to it. But when I see a Legislature largely elected by the farmers and mechanics of this State spending months of turbulent agitation on the question whether the city of New-York shall have another street railroad; when I see the rights and interests of a whole State held in abeyance, until they are shaped to suit the narrow views and partisan feelings of the advocates of a merely local project; when I see a great measure involving the interests of the farmers and mechanics of this State for generations to come allowed a few hours debate; when I see a magnificent gift of a million acres of land designed for your benefit, limited for years to come to a small section of the State, and that too without consulting the views of those friends deeply interested in the education of the people, in opposition to the expressed remonstrance of the able and honored men who for so many years have guided the affairs of this association and done so much for the agricultural interests of the State—then I feel that it is high time you begin to exercise the powers which of right belong to you, and that you should have a voice in dictating the character of those measures which affect so largely the interests of your children."

The remainder of the discourse is devoted to an exposition of the power of association in accomplishing improvements, and to a well deserved eulogy of the patriotism displayed by the Farmers of the State and Country during the present war,—together with an expression of gratitude to that Divine Providence which has rewarded our exertions with the bounteous harvests of the past three or four years.

Dr. **Fisher** might have added, in illustration of the importance of these harvests to the foreign trade, as well as to the domestic comfort and tranquility of the country, the fact shown by tables then just published, giving our exports of Breadstuffs to Great Britain and Ireland during the 17 years preceding Sept. 1st, 1863—that out of each of the crops of 1860, 1861 and 1862, we had averaged shipments thither of about twenty-five millions bushels of wheat, twelve millions bushels of Indian corn, and two and a quarter millions barrels of flour, (*per year*,) being about *six times* as much wheat, *three and one-third* times as much corn, and *twice* as much flour as the average annual exports of the preceding ten years. Without the power of making these exports, in how different condition from what they now hold would have been the finances, not only of the National Government, but in a greater or less degree of every individual within its sway. Imagine this out-flowing stream of our agricultural products, steadily maintaining itself from Sept. 1st, 1860, through to Sept. 1st, 1863, at the rate of 12,000 bushels of grain, and 750 barrels of flour, going forth from our ports for every working hour of every working day during the three years—making up in a great degree for the lack of cotton to export—a lack which was expected to cripple our commerce with other countries—and tending so greatly to the preservation of peaceful relations with those nations that have been buyers in our market.

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☞ Mr. John Coleman, the intelligent manager of the Woburn Park Farm, writes to the Loudon Mark Lane Express, that he estimates his wheat crop this year to average fully *fifty bushels per acre over a surface of* 120 *acres*! To show how nearly his estimates may be relied on, he states that at this time last year he calculated his crop for 1862 to average 33 bushels per acre; when threshed out the amount yielded (155 acres) was 5,135 bushels, being only 20 bushels greater than called for by his estimate—which is certainly close "guessing." The average crop for 13 years previous to 1863 has been 32½ bushels per acre on this farm,—the nearest approach to the enormous product of the present year having been in 1854, when the average yield was 41½ bushels per acre. Mr. C. says: "This makes the crop of this year to be 17½ bushels above the average of the thirteen previous years, and I am quite inclined to think that in this estimate I am under the actual quantity rather than over. I will make no remarks, but let these figures speak for themselves; all I say is that where the land has been well farmed the crop this year is *enormous*, the clay land being in some instances *double* the produce of the past three seasons."

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☞ At the Fair of the American Institute, the proprietors of the Mount-Hope Nurseries, Messrs. **Ellwanger & Barry** exhibited 347 varieties of apples, pears, and plums, occupying a table 130 feet in length, by 4 feet in width. Messrs. E. & B. were also liberal exhibitors at the State Fairs of this State and Ohio, as well as at many of the County Fairs in this and other States.

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☞ Among the most active of our Horticultural organizations at present, is the Fruit-Growers' Society of Eastern Pennsylvania, the 4th Annual Report of which has just reached us. It contains much that is interesting, of which we may avail ourselves for notice hereafter. Among other items, we observe that Wilson's Albany Strawberry seems to fully hold its own in Chester and the neighboring counties, where it has been a favorite variety for several years.

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Large Hay Crop.—The *Windsor* (*Vt.*) *Journal* says that Col. L. B. **Dudley** of Royalton, has cut, the present season, from two acres and twenty-three rods and a quarter, by measurement, thirteen tons and two hundred and forty pounds of hay, being more than six tons to the acre

☞ The Annual Register of Rural Affairs for 1864, we are happy to say, is now ready, and we hope, in the course of this week and next, to fill the orders thus far received. For a summary of the contents of the forthcoming Number, we refer to a full advertisement in another column.

Of the subjects treated, the *Farm Work of the Year* is first taken up, and receives the largest proportion of space. Suggestions for each month are given at considerable length, and while it is of course impossible to adapt such hints exactly to the wants of every reader, it is hoped that they will prove useful as reminders in some respects, to any farmer who may consult them. In future issues, the various subjects of Gardening, Fruit Raising, &c., will probably be treated in a similar way.

Road-Making is a matter in which the farmer is more intimately concerned than any other class in the community. Mr. Herendeen contributes a chapter, full of useful data and valuable suggestions of a practical kind.

An adjunct to other farm operations, of considerable importance, and sometimes carried on as the main object of a small country place, is the *Management of Swine*. The experience of successful managers is described, with such recommendations as could be added from personal practice.

In *Mechanical Contrivances*, a number of more or less recent improvements are illustrated.

Under the head of *Dairy Farming and the Cheese Factories*, will be found full answers to many questions elicited by the great success of the latter, as to their modes of association, manufacture, etc. The cheese factories are not only doing a great work for the farmer, where they have been established, in diminishing the labor of his family and in adding to the profits of his pursuit, but also for the country itself, in furnishing an article sufficiently good and *uniform* in quality to *command* a foreign market, and thus add an important item to the tables of our exports. It is believed that this article will nearly, if not entirely, serve the purpose of a visit to the Factories themselves, for those desirous of investigating the details of their management.

Dr. Fitch's admirable article on Entomology in the Annual Register for 1863, has done much to promote increased interest in this branch of science, and we now present full directions as to *Collecting and Preserving Insects* for examination or as specimens for the cabinet.

Under the head of *Fruit Culture*, P. Barry, Esq., contributes directions for the culture of Peaches, Apricots and Nectarines in Pots or Boxes; Chas. Downing, Esq., notices the Newer Pears, and a very large amount and variety of miscellaneous horticultural matter closes this department.

Opportunity has been taken of the very frequent requests for directions in the Canning of Fruits, to present, in the division of *Domestic Economy*, very full instructions, by which even the novice might successfully provide a full supply of these luxuries for winter use. Many other items of household interest are also given.

Under *Rural Economy*, Mr. Todd offers a detailed article on the subject of Painting, followed by numerous editorial items as to the out-door labors and processes of the farm.

Lastly, in the *Poultry Yard*, a good plan of a house is given, with facts in the owner's management.

—As a whole, the Tenth Number of the Annual Register will thus supply a variety and amount of useful information, second to neither of the preceding issues, which have met with such general commendation and so large a demand. The prices are given elsewhere, but it is not inappropriate to suggest here that a dozen or two copies might probably be disposed of, as presents or otherwise, by every reader, in such a way as to confer much benefit upon his neighborhood,—especially in the present abundance of money and growing inquiry for practical and trustworthy rural reading. Twelve copies are sent, postage prepaid, for $2.24.

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The Wheat Midge.—Joseph Harris of Rochester, in his late excellent address on the wheat crop, says, "I never feared the midge; and I fear it less to-day than ever." He adduces a number of instances showing that the midge usually destroys about a certain amount of wheat per acre on all land, whether the crop be good or bad—if, for instance, the crop be only ten bushels per acre, the midge would be likely to take one-half or five bushels; if, however, the crop should be thirty-five bushels, the midge would be likely to take only five, still leaving thirty bushels. In the former instance, one-half of the crop is lost, in the latter, one-seventh. Hence the great importance of raising the best crops by bringing the land to the best condition by underdraining, and such judicious manuring as has been found to produce the best results. He thinks the practice of exclusively plowing in green crops, by giving the soil much carbonaceous matter, tends to promote too luxuriant a growth of straw, and to somewhat retard the ripening of the grain—thus rendering it more liable to the attacks of this insect. A better way is to convert clover and other green crops to animal manure, (especially by feeding sheep on the land,) which, from the ammonia it contains, is peculiarly adapted to the wheat plant. He especially recommends peas for feeding to domestic animals on this account, and for never selling off the farm, remarking that the manure from feeding peas is worth twice that from corn. He strongly objects to the common practice of calling half-rotted straw, manure.

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Buffum Pear.—We noticed on p. 225 of vol. XX. of the Country Gentleman, a large tree of the Buffum pear, grafted twenty-four years ago, and now with the stem ten inches in diameter, 25 feet high, and with a top about 20 feet in diameter. It bore 25 bushels last year. The owner recently informed us that it bore 17 bushels the present scant season, and that for several years past it has averaged about this amount. He remarked that if the pears were allowed to remain on the tree until they dropped from maturity, they are apt to be dry and mealy, and although of larger size, inferior in quality to those that are picked a week or more earlier. He has therefore adopted the uniform practice of gathering them before full maturity, and ripening within doors. A fine Buffum pear tree, scarcely inferior in size to this, stands on the grounds of Col. Wilder of Dorchester, Mass. This variety is a splendid pear for orchard culture, and when properly ripened is of excellent quality—quite good enough for any one, except it be just after a surfeit.

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Pear Culture.—A subscriber to the Co. Gent., at North Haven, Ct., writes as follows: "I have about 400 pear trees, mostly standard, 4 years planted, where I allow no weeds or intermediate crops. I have no reason yet to think them a humbug. I hope to be able to give you a good account of them."

☞ A sale of Shropshire-Down and South-Down Sheep, belonging to **Peter Lorillard**, Esq., Fordham, Westchester Co., took place, Oct. 7th. It was attended by a number of prominent gentlemen of the neighborhood and from a distance. Many of the sheep were in low condition, and while the prices will not appear high on paper, all were sold, and the result is perhaps quite as favorable as could have been anticipated after an examination of the flock.

Of the Shropshires, 110 in all were disposed of, young and old: including 74 ewes and ewe lambs, and 36 rams and ram lambs—the former in lots of from four to six, as follows:

SHROPSHIRE-DOWN EWES AND EWE LAMBS.

No. Lots.	No. Sheep.	Purchaser.	Agg. Price.
1	5	T. King, Fordham,	$25.00
8	33	Col. L. G. Morris, Scarsdale,	394.00
2	10	Wm. Beebe, Long Island,	135.00
3	0	Hon. A. B. Conger, Haverstraw,	258.50
1	6	N. L. Chafee, Jefferson, O.,	39.00
	74 sold—average $11.50—Total,		$851.50

SHROPSHIRE RAMS AND RAM LAMBS.

No. Lots.	No. Sheep.	Purchaser.	Agg. Price.
16	16	John Cornell, West Farms,	$91.50
10	10	Hon. A. B. Conger,	280.50
1	1	S. W. Johnson, Ellicottville,	10.00
1	1	G. P. Bradford, New-York,	11.00
1	1	J. N. A. Griswold, Newport, R. I.,	13.00
1	1	W. S. Messenger, Great Neck, L. I.,	13.00
1	1	Thos. Swift, Highbridge,	26.00
4	4	Wm. Beebe,	68.50
1	1	R. S. Fay, Lynn, Mass.,	50.00
	36 sold—average $15.90—Total,		$572.50

Of the above, the highest prices were obtained for the two-year old ram which took the first prize at the late State Fair at Utica,—purchased by Hon. A. B. **Conger** for $125—and for another two-year old, bid off for **Sanford Howard** of Boston, as it was understood, for R. S. **Fay**, Esq., at $50. The highest priced ewes were a pen of five, imported, which took the first prize at Elmira, 1861, and went to Mr. Conger at $28 each.

Of the South-Downs, 126 were sold—93 ewes and ewe lambs, and 33 rams and ram lambs—as follows:

SOUTH-DOWN EWES AND EWE LAMBS.

No. Lots.	No. Sheep.	Purchaser.	Agg. Price.
6	32	Col. L. G. Morris,	$397.50
1	5	N. L. Chafee,	67.50
1	6	J. N. A. Griswold,	48.00
8	41	M. Earle, California,	1,326.00
5	9	Hon. A. B. Conger,	213.50
	93 sold—average $22.07—Total,		$2,052.50

SOUTH-DOWN RAMS AND RAM LAMBS.

No. Lots.	No. Sheep.	Purchaser.	Agg. Price.
2	10	John Cornell, West Farms,	$65.00
1	5	John Haven, New-York,	36.25
1	5	M. Earle, California,	51.25
3	3	J. N. A. Griswold,	42.00
1	1	David Beatty, New-York,	73.00
1	1	Thomas Swift, Highbridge,	19.00
1	1	H. L. Browning, Norwich, Ct.,	25.00
1	1	T. A. Nevin, Monticello, N. Y.,	160.00
2	2	Dr. Price, West Chester, Pa.,	36.00
1	1	L. Hasbrouck, Kingston,	23.00
1	1	D. B. Haight, Dover Plains,	25.00
1	1	Hon. A. B. Conger,	35.00
1	1	T. V. Sharp, Kingston,	18.00
	33 sold—average $18.44—Total,		$608.50

Of the South Down Ewes, four were imported and had been prize-takers at the Canterbury Royal in 1861, and at the New-York State Fair at Elmira the same autumn; they went to Hon. A. B. **Conger**, two of them at $50 each, and the other two respectively at $40 and $21. Of the other ewes, the highest prices were brought by those bid off for a Mr. Earle of California—two pens at $41 per head, three pens at $34 per head, one pen at $26 per head, etc. Of the rams, *the* high price of the day was $160 for "lot 100," the two-year old ram which took the first prize at Utica in September, and which was bred by Mr. J. C. **Taylor**, Holmdel, N. J., and purchased from him by Mr. **Lorillard**. It went to Sullivan county. The first prize yearling ram at Utica, went to Mr. Beatty of New York for $73. The next highest lot was an imported four year old which took the first prize at Elmira, 1861, and which now went to Waldberg at $35.

There were also sold a number of Short-Horn and other Cattle, partly belonging to **Lorillard Spencer**, Esq., as follows:

SHORT-HORN COWS.

Name.	Calved.	Purchaser.	Price.
Sonsie 13th,	Ap. 30, 1858.	T. A. Nevin,	$125.00
Sonsie 14th,	Mch. 23, 1859,	A. Bathgate, Morrisania,	50.00
Sonsie 15th,	Mch. 24, 1861,	John Cornell, West Farms,	50.00
Hopeful 2d,	June 15, 1859,	Hon. A. B. Conger,	50.00
Esterville 5th,	June 16, 1859,	J. N. A. Griswold,	75.00
Esterville 6th,	April 6, 1861,	A. Bathgate,	55.00
Esterville 7th,	Sept. 7, 1852,	do.	40.00
Jean 3d,	May, 9, 1859,	do.	165.00
Jean 2d,	June 19, 1858,	T. A. Nevin,	105.00
Phoebe 11th,	July 24, 1859,	A. Bathgate,	110.00
Phoebe 12th,	Feb. 26 1860,	M. Zabriskie,	45.00
Phoebe 13th,	May 5, 1861.	— Bradford,	39.00
Phoebe 14th,	July 1, 1862,	J. N. A. Griswold,	22.00
1 Heifer, no age or name,		A Bathgate,	80.00
1 do.	do.	do.	82.00
3 cows,	do.	G. W. Lewis, Providence, $55 each,	165.00
1 cow,	do.	J. N. A. Griswold,	28 00
1 bull "Fordham," imp.		T. A. Nevin,	295.00
ALSO			
1 Devon bull,	1 year old,	T. A. Nevin,	50.00
1 do. cow,		J. N. A. Griswold,	67.50
1 do. do.		do.	50.00
1 do. do.		J. H. Macy,	50.00

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WOOL-GROWERS' ASSOCIATION IN ILLINOIS.—The Illinois State Fair, lately held at Decatur, Ill., was marked by a movement of some importance among the wool-growers of the State.

A meeting of gentlemen interested in sheep-raising was held on Thursday evening, at which Hon. **George Minier** of La Salle county, was called upon to preside, and C. R. **Overman** of McLean, was chosen Secretary. After a discussion on the subject of washing sheep, in which very diverse opinions were expressed, the necessity of a protective tariff was strongly urged by several speakers, as, also, the need for more efficient protection from dogs. Various plans were proposed to meet the latter requirement, among which were legislative enactments, Osage Orange hedges, and the use of a good gun. No definite conclusion was come to at that meeting, but a committee of seven was appointed to report on the subject at the next meeting—Hon. **John Wentworth**, Chairman.

At the adjourned meeting, on Friday evening, the committee reported the following resolutions, which were unanimously adopted:

Resolved, That the Legislature of this State be requested to provide, by early enactments, greater protection against the depredations of dogs and wolves, by amply compensating from the county treasury for losses sustained from dogs, and by giving liberal bounties for the destruction of wolves. The Legislature can provide the means therefor by taxing or licensing dogs, or otherwise.

Resolved, That, as long as the revenues of the country are derived so largely from duties upon imports, as they now are, the same discrimination that is now made in levying those duties to protect the manufacturers of wool, should be extended to the growers of wool. If the argument is a good one, that this country should patronize its own manufactures, it is equally good that the great staples of those manufactures should be raised in our own country.

Resolved, That while we acknowledge our obligations to the press of the country generally, we deprecate the course of a few newspapers which quote from the New-York Economist and other organs of wool speculators and monopolists, and thus deceive many of their too-confiding readers into selling their wool below remunerative rates. No press can be true to the country that is false to its agricultural interests.

Resolved, That the wool growers of the United States have a common interest, and should have a common organization, to discover, expose and protect themselves from the various combinations of speculators and monopolists, who are not only continually decrying the price of wool, but are laboring to reduce the tariff upon the wool which we sell, whilst they wish to raise it upon the cloths which we buy.

Resolved, That we do now form ourselves into an association to be known as the "Wool Growers Association of the State of Illinois," and that we will elect a President and Secretary, who shall urge the organization of similar associations in every State in the Union, and shall correspond with the same.

On motion of Mr. Wentworth, a committee of seven was appointed to nominate a president and secretary of the Wool Growers' Association. They reported as their choice for President, A. B. **McConnell**, and for Secretary, David A. Brown, both of Springfield, Sangamon county. Mr. McConnell, the President, is, we believe, one of the largest sheep raisers in Illinois—he and his brothers owning something like 25,000 in number. Mr. Brown, Secretary, is also largely interested in the same direction, having something like 3,000 sheep to look after.

A gentleman present, who took a leading part in the proceedings, writes to the Country Gentleman, that "it was the unanimous opinion of those assembled that 75 cents per pound is but a fair price for good washed wool. We intend to open a correspondence with all other State organizations, with a view to prevent our farmers being deceived by the organs of the wool speculators. We shall also demand such a re-adjustment of the tariff as will give us just as much protection as the manufacturer has."

Wheat Show at Rochester.—It will be remembered that the Monroe Co. Ag. Society offered large prizes for seed wheat—the highest $150—open for competition to all. Twenty entries were made, including some from Maryland, Illinois, and Canada West. The prizes were awarded as follows:

Best twenty bushels White (blue stem) Winter Wheat. The committee were unable to decide, and accordingly divided the first premium between I. H Anderson of Hamilton. C. W., and E. S. Hayward of Brighton, Monroe Co.,—$75 each.

The second premium on the above was awarded to Robert Embury of Penfield—$75..

Twenty bushels Red Winter Wheat—first premium awarded to E. H. Hebard of Canandaigua—$50.

There was no competition for the second preminm.

Two bushels White Winter Wheat. First premium divided as before, between I. H. Anderson and E. S. Hayward—$50.

Second premium on same variety to Robert Embury of Penfield,—$25.

Two bushels Red Wheat. First premium to E. A. Hebard, Canandaigua—$40. Second premium to Harvey Jerrolds, Perinton,—$20.

After the above awards were made the premium wheat was sold at auction, at an average of $2.75 per bushel. The best twenty bushels of white (blue stem) winter wheat was purchased by John Johnston of Geneva, who was one of the judges.

☞ The Exhibition of the American Institute closed on the 25th, and is generally characterized as in all respects a success. The chief feature of the last week was the Horticultural display, including the finest show of Fruits, it is said, ever made in New-York. A collection from the widely known Nursery of Andre Leroy, Angers, France, embraced about 250 varieties of the pear, and 150 of the apple, and was the first contribution of the kind on record from Europe to an American exhibition. It is said that about 100 varieties more were originally included, but did not stand the voyage so as to be fit for the tables. Among American exhibitors were a number of our leading Nursery firms and amateurs—among them 137 varieties of pears from T. T. Lyon, Plymouth, Mich., 347 of pears, apples, and plums from Ellwanger & Barry, Rochester, 142 of pears from J. B. Wolfe, Esq., Throgs Neck, 50 of pears and 25 of apples from W. L. Ferris, Throgs Neck, 100 of pears from C. M. Hovey, Boston, and other valuable collections, from Frost & Co., Rochester, Charles Downing, Newburgh, D. W. Coit, Norwich, Ct., and numerous others.

☞ Mr. Robt. Rennie of Port Hope, C. W., writes to the Toronto Globe on the subject of "Seed Grains," asserting that varieties of wheat in Canada West require renewal by the importation of the seed at intervals from other localities. For example he says that "Fife wheat, on lands where it originally produced from 23 to 28 bush. per acre, under the same culture, now does well when it brings 14 to 17 bush., and it is feared it will soon reach the point of positive loss." He urges "not only individual but national exertion to provide suitable changes of seed before the deterioration becomes so serious as to be a heavy national loss," and would like it, if the Board of Agriculture would send "competent parties to the north and south of Europe, and the United States, to examine growing crops, and select from the standing grain at harvest such as they might think desirable for seed for Canada."

Vermont Sheep.—The sheep fever is raging, to a high degree, in Vermont. The papers of that State, for the last week, report sales as follows: Eli Thorp of Bridport, has sold a ram for $1,000, to John Sprague of Waltham. E. S. Stowell of Cornwall, a ram for $1,200, to D. J. Twitchell of Weybridge. Mr. Stowell has also sold his ram "Sweepstakes," to Twitchell, Boyce & Co. of Ohio, for $1,200, and he "has two ram lambs for which he has refused $3,000." M. G. Barber of East Hubbardton, sold a ram to Ships, Cotter & Co. of Ohio, for $600, for which they "refused $1,200 before he left the railroad depot." J. S. Benedict of Castleton, recently refused $1,000 for twelve sheep that might be selected from his flock. Mr. B.'s price was $1,200, and nothing less would procure them. Seneca Root of East Hubbardton, writes to the *Rutland Herald*, as follows:

"In a late number of the Herald you ask, "Who Beats?" and say you have been informed that M. M. Dikeman of this place, sold a buck lamb last fall, &c., that sheared 17¾ pounds of good clean wool. I am not one of the bragging kind, and shall content myself by stating facts, and submit to you, whether I beat or Mr. Dikeman. Two years ago I sold to T. J. Ketcham of Pittsford, a buck lamb that I raised, which was dropped in April. The next May he took from the lamb 20½ pounds of 'good clean wool.' I have a yearling April ewe, from which I took last June 14 pounds of *washed wool.* She was kept with the flock, and had no extra keeping in summer or winter."

Sale of Stock.—Mr. Wentworth of Chicago, purchased at the late Illinois State Fair, one-half of the celebrated imported bull King Alfred, (14760,) bred by Jonas Webb of Babraham, England. He was selected by James N. Brown in person, who has held him above all price until he sold one-half to Mr. W., on condition that neither is to use him upon other cows than his own, and neither is to ever part with his interest, and he is to be kept every other year upon the farm of each. His grandsire was the Duke of Gloster, (11382,) and he has several other crosses of the Duke blood.

Red Astrachan Apple.—A Massachusetts correspondent of the Genesee Farmer says, that by picking the Astrachan apples as soon as they get well colored, and placing them in a dry place, their propensity to rot is checked; they soon become mellow, and their acidity is so reduced that they are very agreeable in the hot season and never cloy the appetite.

The Ohio State Fair was held at Cleveland, Sept. 15–18. The exhibition was good, the attendance large, and the Fair, in every way, a decided success. The receipts were about $15,000—sufficient, says the Ohio Farmer, to pay all past indebtedness, premiums and expenses, and leave a handsome balance on hand.

☞ J. W. Bailey, Esq., of Plattsburgh, sends us a sample of the Adirondac Grape, which came to hand in excellent order. In size and flavor, as well as in time of ripening, this variety is now an admitted acquisition; those who have had experience in its culture, so far as we are aware, are unanimous in its praise.

Inquiries and Answers.

DWARF PEARS.—There is much complaint of the dwafs pear not being durable. How would it do to bend the young tree in the form of a layer at the time of planting, to make the young tree root from the pear? Again, how will the Seckel pear do to make perry? I have quite a number of young trees, and if it would make a good article, the fruit might be used to advantage that way, as it is sometimes quite knotty. W. B. D. [Bending the pear tree would spoil itr shape; a more common way is to plant the trees deep when they are young, in order that the pear may throw out roots above the quince, which they will frequently do. These roots, however, being frequently one sided are apt to cause the tree to incline or tip over. This may be partly remedied by laying bare the prominent roots and bending them around in the form of a hoop. The best way however is figured and described on page 46 of vol. xx, of the Co. Gent. We know nothing of the manufacture of perry, but would prefer even knotty Seckel pears to all the perry that could ever be made.]

IS BUCKWHEAT EXHAUSTING?—You will confer a favor on one of your subscribers if you will state whether buckwheat is injurious to land or not, as some farmers, principally those that have lime-stone land, say that it impoverishes the land. J. M. S. *Eagle Foundry, Pa.* [Cultivators differ in opinion on this subject, and we have no distinct, well authenticated facts to settle the question conclusively.]

GAS LIME.—What is the value of refuse lime of gas works for manure, say at five cents per bushel? W. B. C. [Gas lime is of very uncertain value. In some places there is a constant demand for it, while in other localities farmers will not take it as a gift. It should never be used until after it has been for some months exposed to the air. After this exposure it should be thoroughly composted with three times its bulk of soil, and applied as a top-dressing to grass lands.]

SOWING FLAX SEED WITH BARLEY.—If not too great a tax on your space, I would like to get some information in regard to sowing flax seed with barley and other small grain. There was an article on this subject in the Co. Gent. last spring, but it was not so full as desirable. How much must be sowed to the acre; is it necessary to harrow it in, and how is the flax seed to be separated from the other grain? A reply to these inquiries would greatly oblige an old subscriber. M. B. G. [Will some of our correspondents who have had experience with this mode of management, please answer.]

DWARF PEARS.—I wish to add this fall about 40 dwarf pears to my orchard. I already have a variety list. I now want to plant of the most desirable sorts for profit. Will you please make out a list for me? R. *Newark, O.* [The Louise Bonne of Jersey and Duchesse d'Angouleme are the two most profitable pears as dwarfs—the latter is sometimes unproductive at the West. Next to these may be named Beurre Diel, Glout Morceau, Vicar of Winkfield, Beurre d'Amalis, Easter Beurre, Buffum, Urbaniste, Anjou, Belle Lucrative, Nouveau Poiteau, Josephine de Malines.]

ERGOT.—Will some one tell me how to separate "smut rye" from rye, and what is ergot worth per pound? J. W. B. *Wilson, N. Y.* [The grains of ergot are so much larger than the healthy or unaffected grains, that they are easily separated by a sieve. We know nothing of the market value of ergot.]

LAYERING PARADISE AND QUINCE.—Please enlighten me upon the subject of layering the Paradise, Doucain and Quince stocks. Should they be laid full length in the trench, or planted and bent down, leaving a little of the stock next the root exposed for shoots for the next year's layering? M. G. *Washington, D. C.* [They should not be bent down, as that makes them crooked, but cut down, so as to sprout up thickly, and the earth then embanked around these shoots, the embankment broad enough to preserve moisture. These, when rooted, are separated and set out in rows till they form good plants.]

FOUL IN THE FOOT.—Can you or any of your subscribers tell me of a cure for my cows? I have had a good deal of hoof ail among my cows this summer, and have succeeded in curing the most of cases with the ordinary application of tarred rope; but I have now three cows that none of the common remedies seem to help. The disease enters the hoof quickly—that part of the leg immediately above the hoof becomes considerably swollen, and soon cracks open, discharges matter, and the animals are so lame that they will not willingly move about. One of the three I have turned off as incurable; she will lose one hoof, and I greatly fear I shall have to do the same with the others. I have used muriatic acid, butter of antimony, vitriol, copperas, lime and tar, and don't think that any of the above have done the least good to the three cows spoken of. If you can give me any information in regard to the cure of such cases, you will much oblige A SUBSCRIBER. *Newton, N. J.* [Can any of our correspondents furnish a remedy for virulent cases as above, which do not yield to any ordinary treatment? Dadd recommends tincture of matico, 2 oz., pyroligneous acid 1 pt., glycerine 4 oz.; these ingredients are to be mixed together, and a sponge saturated with the mixture placed between the cleft of the hoof, and it may be kept there by a bandage. Bathe the hoof and adjacent parts with the same mixture. Doubtless pulverized charcoal would be a useful ingredient in poultices for this disease, and a solution of chloride of lime form a good occasional wash.]

DISTANCES OF QUINCE TREES.—I wish to ask for information on the following: I planted some 6 years ago, 25 Quince trees, and as I saw the distance in Thomas' Fruit Culturist from 6 to 8 feet, I planted mine 10 feet apart. The ground was trenched with the spade 2 spits deep—a rich black soil that depth. They have been bearing for two years, and the branches are now so close together, that I cannot cultivate them with the plow or cultivator, and it is too expensive to do it with the spade; consequently the surface has become a sod; and as I am going to put out 200 more this fall, the ground to be subsoiled to the depth of 20 inches, what distance should they be apart so as I can cultivate with plow, cultivator and harrow? Would it be advisable to remove every other row of those already planted, that is, so that they would stand 10 by 20 feet apart? I think I could do it without checking them much, by digging a trench around them before frost, 2½ feet from the tree, filling it with straw, and when the ground is frozen removing them with a ball of earth attached and setting them in new holes. JOHN PORTER. *Pittsburgh, Pa.* [The quince trees in this instance appear to have grown with great vigor, and to have attained unusually large size. We think that distances formerly given for fruit trees are generally too small. It has been found that the roots extend farther than was once supposed; and, although the branches may be far from meeting, it is desirable to give room enough in the soil for their free extension, without meeting each other or exhausting its fertility. Every alternate row in the above instance might be removed, as proposed. It would be well to take that opportunity for thinning in the trees by pruning, in order that their growth might be as little checked as possible.]

MARKET GARDENING.—I am a city gentleman, just about moving to the country to go into "market gardening," and would like to know the best book I can get on the subject. I have several books, but they all seem to think that the reader is a tolerably fair gardener to begin on. I want one for a *real beginner*. If you know of such a work, it might make a suitable item in your column of "inquiries and answers." J. W. F. *Nashville, Tenn.* [Buist's Kitchen Gardener, price 85 cents, post-paid, is the best work we know of, for your purpose.]

REMOVING WHITEWASH FROM AN OLD WALL.—I am very anxious to know how I can remove whitewash from a brick wall, so that ivy will cling to it. The whitewash is so old and hard that it cannot be scraped off. Is there any acid that will take it off? P. S. C. *Cecil Co., Md.* [We know of no easy and good remedy.]

TOBACCO.—An answer to the following will much oblige myself, and I doubt not many others. C. *Cecil Co., Md.* "CONNECTICUT TOBACCO.—We should like to have some one explain the difference between the Kentucky and Connecticut tobacco—showing the reason why the latter should be worth, (as it generally is in New-York,) more than double the price of the former." Mr. LEWIS in "THE CULTIVATOR" for April, 1847.

PIGS, &c.—I would like to make inquiry through the columns of your paper, if any one in Western New-York, breeds for sale the Chester County or Berkshire pigs? If so, I would respectfully suggest to them the propriety of advertising in some good reliable agricultural paper, like the Co. GENT. Such a course might perphaps prove a mutual benefit. Also let me ask your readers if any of them are posted, as to where a thorough shepherd's dog might be had? W. H B. *Jamestown, N. Y.*

BROOM CORN.—Will you have the goodness to solici some correspondent to write an article on the cultivation, curing and value of broom corn. Your pages are rich with most valuable information on nearly every agricultural subject save this one. What I, and I presume other readers need, is to be informed *minutely* of the entire modus operandi of the whole thing, from the planting of the seed to the marketing of the proceeds.

Marshall, Mich. O. C. COMSTOCK.

CIDER VINEGAR.—I wish some of your readers would give me the modus operandi of having cider turn to vinegar by next summer. Ought it to be watered, or will it make vinegar if left pure? Also how to manage the pomace soakings, and how long ought pomace to stand before it is pressed? Also, ought the vinegar or cider to be racked off this fall after I am done pressing? W. B. C.

☞ Of the "State Fairs" of Pennsylvania, Indiana and Illinois, we have accounts in our exchanges,—all of them more or less affected by the influences which tend to prevent a large turn-out of exhibitors the present season, owing to scarcity of labor and other reasons—but all of them characterized by a good attendance of people.

Mr. Solon Robinson says of the Pennsylvania State Ag. Society's Show at Norristown, Sept. 29 to Oct. 3, that the display of agricultural implements was a very good one. "In this department the show of a large number of grain drilling machines, indicates the disposition of Pennsylvania farmers toward this great improvement in putting in grain. Although many thought Pennock's drill was almost perfect, twenty years ago, we find that every year witnesses some little improvement, and it appears to me that farmers gather around these machines and listen to the remarks of the exhibitors with just as much earnestness as they did with the first ever made public." The show of fruit and flowers appears to have been fair, and that of vegetables—a department often too much neglected—a good one. Some very good samples of grain were exhibited. The dairy department scarcely had an existence. The display of live stock included some very good animals, but could not be considered as approximating a fit representation of the improved stock of the State.

Of the Indiana State Ag. Society's Show, at Indianapolis the same week, the Secretary, Mr. Loomis, states that it "was a success, far exceeding the expectations of our most sanguine friends." In the live stock and mechanical departments the exhibition was "rather light, compared with former years, although fully four times as good as last year. Our show of sheep of the different grades has never been equalled in any former year," and in fruits and flowers the display was also unprecedentedly good.

Of the Illinois State Ag. Society's Show, at Decatur, on the same days, the Prairie Farmer reports the show of cattle very superior as to quality, and fair in numbers. "The Short-Horns, of course were most numerous, as they also are in the State, either from real superiority of the race, or from the perseverance and enterprise of the breeders. The show of Devons was light, far below previous exhibitions, both in number and quality." The show of horses was the largest and best on record, and the swine were in good numbers and quality. There was a good turn out of sheep in the different classes of French and Spanish Merinos, South-Downs, Long Wools and grades. The variety of implements and machines shown was not as large as sometimes, but the assortment of those for special uses was very large, particularly in harvesting machines, wheel cultivators, corn planters and gang plows. The exhibition of fruit was creditable, F. K. Phoenix of Bloomington, being one of the leading competitors.

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PRICES OF AGRICULTURAL PRODUCTS AT THE WEST.—The Prairie Farmer notes the contrast between the prices of all the Western farmer raises for sale, at this time, as compared with those of two years ago—the first winter of the war. The following are the Chicago quotations at the dates affixed:

	Oct. 17, 1861.	Oct. 15, 1863.
Flour—Choice S. Extra,........	$3.60@4.20	$5.00@6.25
Wheat—No. 1 Spring,............	75c@75½c.	1.09@ 111
Corn—Canal mixed in store,....	22c.	78@80c.
Oats—in Store,....................	17c.	58@60½c.
Rye, ...	30@31c.	98@99c.
Potatoes, ...	40@50c.	60@65c.
Beans, ...	1.30@1.50	2 70@2.75
Flax Seed,........................	99c.	2.60@3.00
Timothy,...........................	1.75@1.40	2.10@2.25
Broom Corn, (Sept. 9,).........	50.00@75.00	145.@150.00
Wool, (Oct. 3,)..................	25@30c.	55@58c.

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AMERICAN STRAWBERRIES IN ENGLAND.—The *Gardener's Chronicle*, London, gives an account of the Strawberry plantation of the late Mr. Nicholson at Yarm, where over 400 varieties, collected from all parts of Europe and from this country, are under cultivation. Of American varieties the writer speaks as follows:—"Many kinds have been sent from America, and are grown here, but, with two or three exceptions, cannot be regarded as fine strawberries, almost all being deficient in flavour. One of the best is Boston Pine, a free cropping variety, of medium size, useful for preserving and very early. Wilson's Albany, however, is the best as seen here; a good sized, handsome, round fruit, of a dark red color throughout; an excellent preserving sort."

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BIG CROP OF ONIONS.—The editor of the Massachusetts Plowman has been down among the Marblehead farmers. Among other things he made a note of, is a statement in regard to the onion crop of Horace Ware, jr., which is estimated the present season at *seven thousand bushels!* They are grown upon fourteen acres. He raised a large crop last year, but unlike his neighbors he did not sell them until spring, and thereby saved in the difference of price, the snug little sum of *two thousand dollars!*

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☞ We learn that Mr. JURIAN WINNE of Bethlehem, has sold his fine Leicester ram, which received the first prize in his class at the Utica State Fair, and a portrait of which was published in this paper of Aug. 27, to Mr. GEO. A. EXTON of High Bridge, Hunterdon Co., N. J.

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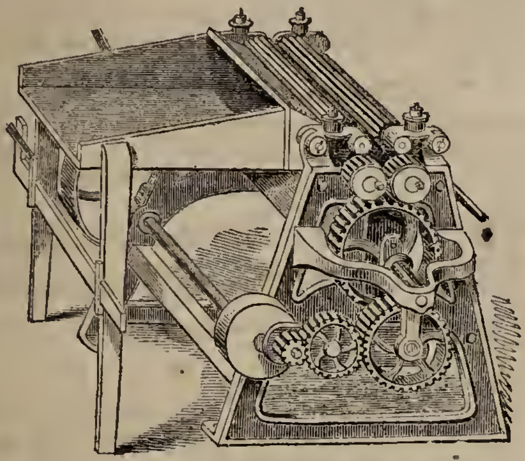

MALTA, SARATOGA CO., N. Y., Aug. 10, 1863.

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Gentlemen—On the 19th day of March we drew to the mill of N. G. Akin, thirty-nine hundred and thirty (3930) pounds of flax straw, which he dressed through the old Brake, and we received four hundred and eighty-one (481) pounds dressed flax.

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The flax was grown on the same piece of land, and there was no perceptible difference in the quality of the flax, except that the portion drawn to Akin's mill was rotted in the fall of 1862, and that drawn to Mr. Buckley's mill was spring rotted, which is considered not so good, from the fact that it loses part of the oily matter from the fibre, and does not yield as much per ton of straw as the fall rotted.

You will perceive by the above statement that we received from Mr. Akin's mill 245 pounds nearly of dressed flax per ton of straw, and from Mr. Buckley's mill 365 pounds of dressed flax per ton, which makes a difference of 120 pounds per ton in favor of your Brake.

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J. B. WEEKS.
L. L. WEEKS.

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Aug, 27—weow2tm3t. WM. H. BUCKLEY.

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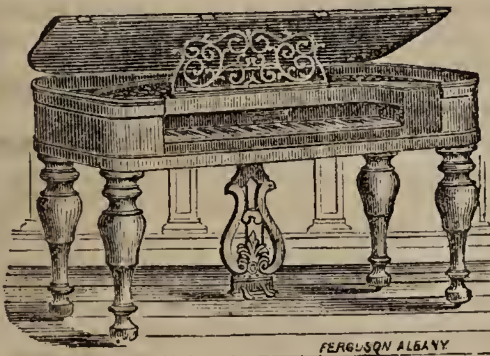

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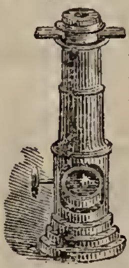

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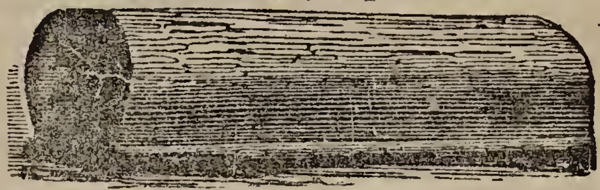

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1864 THE ILLUSTRATED 1864 ANNUAL REGISTER OF RURAL AFFAIRS.

NO. X---FOR 1864.

One Hundred and Thirty Engravings!

The Tenth Number of the ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS is now in press, and will be issued without farther delay.

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It is illustrated by nearly ONE HUNDRED AND THIRTY ENGRAVINGS, of which the larger part are from drawings especially prepared for the present Number.

Beside the usual Calendar pages, presenting calculations for the three different parallels of the New-England, the Middle and the Border States, the following synopsis will partially show the chief subjects treated and the ground covered in the "ANNUAL REGISTER for 1864."

I. FARM DUTIES PERFORMED IN SEASON—FIFTY-SIX ENGRAVINGS.
1. Work for January—including plans of Ice Houses and Mode of Filling them, etc., etc.
2. Work for February—Manure Management.
3. Work for March—Preparing for Seed Time.
4. Work for April—Fences, Grass Lands, Plowing, etc.
5. Work for May—Indian Corn, Roots, etc.
6. Work for June—Corn Fodder, Orchard, &c.
7. Work for July—the Hay and Grain Harvest, etc.
8. Work for August—Weeds, Straw Stacks, Draining, etc.
9. Work for September—Winter Wheat, Cutting up Corn, Laying Stone Wall, &c.
10. Work for October—Husking—Potatoes—Winter Apples.
11. Work for November—Fattening Animals—Fall Plowing, &c.
12. Work for December—Feeding and Care of Stock—General Suggestions, &c.

II.—ROAD MAKING—TEN ENGRAVINGS.
1. Good vs. Bad Roads.
2. Friction of Vehicles.
3. Draining Roads and Road Scrapers.
4. McAdamizing.
5. Laying out Roads.

III.—MANAGEMENT OF SWINE—FIVE ENGRAVINGS.
1. Introductory Hints.
2. Pig Houses.
3. Breeds and Breeding.
4. Feeding and Fattening.

IV.—MECHANICAL CONTRIVANCES.—TWENTY-TWO ENGRAVINGS.
1. Self-Acting Sled Brake.
2. Cattle Ties and Stanchions.
3. Movable Fences.
4. Jack Screws.
5. Draining Tools.
6. Brake Puller—the Hand Cart—the Dirt Scraper.
7. Farm Gates—Flat and Lapped Furrows.
8. The Kelsey Harrow.
9. Geddes' Wool Press.
10. Hand Cultivator for Garden Use.

V.—DAIRY FARMING AND CHEESE MAKING—SIX ENGRAVINGS.
1. Cheese Factories Here and Abroad.
2. Their Management in Central New-York.
3. Arrival of Milk and Apparatus Employed.
4. Setting the Curd—Cooking and Salting.
5. The Cheese House—Curing Racks.
6. The Manufacture of Swiss Cheese—Whey Butter.
7. Quality of Milk at Different Seasons.
8. Quality and Cost of Cheese.
9. Private Dairies and Dairy Farming.
10. Manures—Stables—Forage Corn—Winter Management.
11. Cooking Feed at Utica Lunatic Asylum.

VI.—COLLECTING AND PRESERVING INSECTS—NINE ENGRAVINGS.
1. Collecting Insects—Apparatus Required.
2. Methods of Preserving them.
3. Study of Entomology.

VII.—FRUIT CULTURE—THREE ENGRAVINGS
1. Peaches, Apricots and Nectarines in Pots or Boxes—written for the ANNNAL REGISTER by P. BARRY, Esq.
2. New Pears--written for the ANNUAL REGISTER by CHARLES DOWNING, Esq.
3. Cultivation of Orchards—Currant Worm.
4. Dwarf Pears Changed to Standards—Small Fruits.
5. Fruit for the Army—Improved Culture—Watering, &c.
6. Peaches for Market—Good versus Bad Fruit.
7. Planting Dwarf Trees—Vineyards too Fertile.
8. Pears at Boston and Newburgh—Old Apple Orchards—Apples for the West—Grafting, &c.
9. Select List of Small Fruits—Winter Apples for Family Use—to Prolong Flowering.

VIII.—DOMESTIC ECONOMY—SIX ENGRAVINGS.
1. Canning Fresh Fruits—Particular Directions, including the whole process and necessary apparatus,
2. Wash for Barns—A House for Drying Fruit.
3. Curing Hams—Potato Yeast and Yeast Cakes.

IX.—RURAL ECONOMY.
1. The Philosophy of Painting—Materials—Oil—Lacker—White Paint.
2. Lead Color, Blue, Green, and Red—Paint Brushes, etc.
3. Plaster of Paris Paint—Tar Paint—Shellac Varnish—Benzole.
4. Prepared Glue for Wood and Leather—Oil and Varnish for Harness, etc.
5. Short Rules in Rural Economy.
6. Harrows for Stony Land—Corn-Fodder.
7. Draining—Ice-Houses—Fuel—Tackles and Ladders.
8. Gas Tar for Posts—Ox-Eye Daisy—Root-Cellars, &c.

X.—THE POULTRY-YARD—EIGHT ENGRAVINGS.
1. Poultry-Houses, Coops and Yards.
2. Poultry-House of W. H. Herrick, Esq.
3. Mr. Herrick's Management.

It will be observed that the Leading Article in the present number of the ANNUAL REGISTER is intended to follow the Farm Labors of the year throughout their round, suggesting the several points particularly requiring attention from month to month. It will be found well worth the price of the Number to every careful reader. In future issues, the various subjects of Gardening, Fruit Raising, &c., will probably be treated in a similar way.

The subject of Cheese Making and the CHEESE FACTORIES is now one of especial interest. The article referring to it is the result of a personal examination of the leading Factories, and presents a full and concise statement of all the details of manufacture, as well as the organization of the factories. It is the most complete account of them yet before the public.

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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N. Y., DECEMBER, 1863. No. 12.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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BENEFITS OF AGRICULTRAL READING.

He "who cultivates at once his mind and fields"—the farmer who conducts his pursuit with the intelligence of the man of business, with the skill derived from long practice, with the breadth of views obtained by reading and thinking—such is the ideal of the American "Country Gentleman," which, in publishing a paper under that name, we desire to hold up for the imitation of our readers. The truth is,—and it is creditable to Mr. MITCHELL'S close observation of present deficiencies in American farm life, that he should have remarked it particularly, in his recent volume,*—in no other pursuit are forecast of plans, method in prosecution, a just apportionment of capital, more sure to *tell* upon the results accomplished, than in Farming; and the study of the sciences which bear upon Agricultural labor, instead of simplifying and reducing it more nearly to a mere mechanical series of processes, actually necessitates a larger practical skill in the application and direction for economical ends, of the increased knowledge thus attained. In other words, by increasing the power of your engine, you can accomplish more work, if you have the machinery to do it with: all that quickens the intellectual powers promotes success, if their aims are carried out through the medium of practical common sense; but no engine nor machinery, however well their work may be effected, can bring the cash account to a satisfactory balance, unless, pervading and guiding every operation, are found the order, the close observation, the business tact, which govern in other pursuits.

We believe that the English bankruptcy courts, when the affairs of an unsuccessful trader are brought before them, regulate their action very much in accordance with the kind of business habits he is shown to have formed; if his accounts are full, clear, and satisfactory, it is taken for granted almost, that failure has been due to circumstances or catastrophes he could not foresee. His certificate of discharge is then often presented him with many complimentary remarks; but, if his accounts are imperfect, if he has not clearly known himself whether he was running in debt or getting on well,—the judicial officers frequently administer a very pointed reprimand, and sometimes refuse the certificate entirely. Let us be thankful, for the credit of American farmers, that they are not liable to be examined by judge or jury very closely, in the keeping of their books, as to the direction of their capital, or the relative profits of their different undertakings: far too many might not receive a "first class certificate"—of business energy and tact.

When one is finding fault, however, with what goes on around him—complaining of this or that error, in omission or commission, as infecting the community—it is often convenient, if not always fair, to stop him with the qnestion: "What are you going to do about it?"

—— Shall we answer this question—in a somewhat round-about way?

Will the reader, then, favor us by instituting a mental comparison, in the several respects above referred to—practical skill, business tact and some knowledge of scientific principles—between those farmers who *are* and those who are *not*, habitual readers of Agricultural periodicals? We are well aware that both these classes include some exceptions: that there are those who prefer to read in the chimney corner, when they should be holding the plow, or to discuss—the action of gypsum, perhaps—under the shade, when the reaper or mower ought to be at work; that there are others whose native instincts, so to speak, make up for lack of reading, and who, without ever consulting paper or book, or keeping any but the rudest of accounts, make more money than thousands of those who do both well and constantly. So some wholly self-taught men, in other departments of effort, have achieved positions beyond the reach of hundreds backed by all the culture of the schools, but no one for this reason decries education: we take the two classes—those of cultivated Intelligence generally, and the uncultivated, or, among farmers, those who are careful readers of Agricultural papers, and those who are not,—and, as a whole, we shall find the preponderance of success in attaining the aims sought for, resting with the former. In many ways this truth is recognized by those who in controversy might not admit all the consequences of its correctness. Even the author of the book already referred to—the whole gist of whose advice to American farmers, is in directions in which the Agricultural papers are the most efficient of all means of promoting improvement—now and then indulges in a quiet "hit" at their contents, (because they argue that "farming pays," or because they give accounts of some high farming that *don't* pay, and so on,) and nowhere recognizes that they are great agents in inculcating, weekly or monthly, just the lessons that he is preaching once for all in his excellent volume. Now this volume will do great good among our farmers—if they read it: those who have habitually consulted and read the agricultural papers, will be likely to do so and profit accordingly—but will any others, we mean, of course, among those who *are* farmers strictly? Is it not the agricultural press which has fostered an audience, in the country, capable of appreciating such a work?

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* MY FARM OF EDGEWOOD—pages 274 and 282.

There are some very plain questions, like that of the "profits of farming," or this of the "benefits of agricultural reading,"—which it is well enough every two or three years, to bring up for general discussion. No one who has not had the sphere of observation which an agricultural editor may acquire by seeking intercourse with farmers throughout the country, can fully understand the apathy that prevails on the latter subject, among thousands of farmers, nor yet the steady and sure, but not very demonstrative progress that is going on among those other farmers who *do* read and know what they are about. If we are told that the very success of the Agricultural press, furnishes all needed evidence that its importance to the agricultural community is fully appreciated, we should most gladly acquiesce, if possible; but subtracting from this success, that part which is due to the engravings and puzzles and tales and various "premiums" to subscribers, which have not the most remote connection with agriculture, and that other part which must be ascribed to the tastes of citizens and villagers who enjoy reading about the farms and gardens they may or may not elsewhere possess—the proportion that would be left, directly arising from the patronage of the farmer himself, would be far, very far, smaller than it ought to be.

—— Can it be increased?

The circulation of all periodicals is mainly dependent upon the efforts in their behalf put forth by their respective friends. The political papers are already urging their political associates to work up enlarged subscription lists, in order to influence the elections of 1864. The religious papers all have denominational (and some perhaps also political) supporters, who never tire in caring for their interests. The Agricultural press, being neither partizan nor denominational in its character, must appeal to those who perceive its influence for good upon the prosperity of the Agricultural community.

And it is this appeal we make for ourselves, now that a new volume will soon begin. As we stated in our last number, the times were never more propitious for such exertions. With a very little effort, generally participated in, the circulation of the COUNTRY GENTLEMAN and THE CULTIVATOR might be doubled for 1864. Will not every reader endeavor to contribute something—by a word in season, kindly spoken,—by a pleasant day devoted to visiting his neighbors and laying the subject before them,—by enlisting his postmaster or some other influential person in our behalf—toward accomplishing this end? During the interval between now and the New-Year we hope to have evidences that the present prosperity and abundance of money among our farmers is leading them, more than ever before, to a liberal support of the literature of their calling, and thus to the farther advancement of our Agriculture, and of the strength and wealth of our country

INQUIRIES ABOUT MANURE.

EDS. CO. GENT.—I have about 40 loads of manure in one heap, and about 90 more to be carted, and I want to make all I can of it. Do you think it would *pay* to compost it with turf from roadsides, and from fence-corners, and from under trees in *old* pastures? (1.) Would turf be worth as much for composting as swamp mud that has been covered with bushes for a number of years? Please state what proportion of turf you would use, (if any,) and how mix it? (2.) I shall probably have a large quantity of manure from city stables this winter, which I want to take from the stables often (before it fire-fangs)—how shall I manage it after I get it? Would you get a good big pile of turf this fall, to mix with the manure in the winter as I cart it from the city? (3.) Is there any way that I can use leaves to advantage, besides for bedding? Would it pay to make a compost heap of them and manure (cow and hog?) (4.) I have just bought a small place rather run down, and I want to make all the manure that I possibly can. All the stock I have is one horse, and I don't want any more until I can cut my own hay, for hay is worth $22 per ton here at this time. If you can give me any hints on managing my manure so as to make the most of it, I should be very much obliged to you. F. L. C.

(1.) The answer to this question depends very much on the condition of the manure to be used. If already well rotted it need not be composted—and in any case we should prefer spreading it at once upon the soil before winter, that the rains may dissolve and carry it in among the earthy particles. Experience has proved this an excellent way, whether on grass lands or on ground to be plowed early in spring. Composting is more particularly adapted to coarse spring manure, which requires working down fine, and retaining all the enriching portions. Dry turf is an excellent absorbent; straw does well if worked in as litter while the manure is forming. (2.) The answer to this question depends very much upon the condition of the material; either succeeds well if dry and friable. If the turf has the most clay, less of it need be used. A clayey loam will answer if one-half as much as the manure is used—a light soil or a light peat should be in equal quantities with the manure. The thinner the layers of each, the more perfect will be the intermixture. (3.) If labor is scarce, the best way would be to spread it thoroughly broadcast upon the soil, as already recommended; the rains and melting snow will carry it into the top soil, where it will be absorbed and held by the greater or less amount of clay which nearly all soils contain. Unless large streams run across the surface, little or none of it will be carried away or wasted, the soil quickly absorbing it. If labor is cheap and abundant, and old turf, muck or peat can be placed in a heap where it will not freeze, as in a cellar or under a large pile of straw, it will assist in forming excellent compost-heaps during the winter. Another way would be to spread the manure on the barnyard, where the cattle can tread it hard, mixing with it, at the same time, layers of leaves and straw cut an inch or two in length—the object of cutting the straw is to allow the manure to spread readily in spring. (4.) Dry leaves would be useful in a compost-heap as an absorbent, like straw, and would have the advantage of being shorter, and consequently make fine manure sooner. They may be also used in the manner just described.

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☞ MR. GEO. C. HITCHCOCK of Ash Grove, New Preston, Ct., has lately disposed of his Flock of Cotswold Sheep, descended, as our readers will remember, from valuable importations made by Mr. H. in 1857. (See Advertisement.)

American Agriculture Seventy-five Years Ago.

A volume of the Agricultural Correspondence of Geo. Washington was published fifteen or sixteen years ago, containing his letters to Arthur Young, Sir John Sinclair, and others. It has been on our library shelves ever since its publication, and chancing to take it up the other day, we opened upon some statements that may be of interest at the present time. The change that has been effected during the three-quarters of a century now elapsed since most of these letters were written, both in the agriculture of Great Britain and in our own, is almost as marvelous as the progress effected by machinery in the other industrial arts. At the same time, the actual advancement in our acquaintance with the principles on which good husbandry rests, seems comparatively small; the improvement has been in the implements we use, and in the breeds of animals we raise, and, beyond these, in the wider diffusion of the knowledge then possessed or since acquired, and its more general application in the practice of the many.

It may first be remarked, as illustrative of the difficulty of foreseeing what are to be future channels of trade and centres of population, that Washington considered the Valley of the Potomac as "designated for the seat of the empire." Its inland navigation, more than any other, was "to connect the Atlantic States with the vast region which is populating, [even then] beyond all conception, to the westward of it." Here, at the "Federal City" (Washington,) was to arise "the grand emporium of North America." The "big ditch" of Governor Clinton, however, as it was facetiously termed by his contemporaries, proved too strong a competitor for the Potomac and the Shenandoah; and northern energy, in these later times, has turned the tide of travel and commerce, to a very large extent, out of the streams on to the dry land, where its ebb and flow can be at the pace of steam and its path the iron road.

As to the crops produced seventy-five years ago, we find "fifteen to twenty bushels of Indian corn, and from nine to twelve bushels of wheat, to the acre," named as the common yield in Maryland; the writer of this letter (which was in reply to some inquiries made by Washington,) adds that "there are instances among us of thirty bushels of wheat, on an average of years, being raised to the acre, on particularly manured and highly cultivated spots; and, from essays, it is a common opinion that good land, highly cultivated and manured, will produce from forty to fifty bushels of Indian corn to the acre." In Virginia the Indian corn crop is stated at "from ten to fifteen bushels an acre." In Bucks county, Pennsylvania, ten bushels of wheat to the acre is thought to be a fair average, for, though twenty, thirty, and even thirty-five bushels may be produced, "yet from the many casualties to which land tillage is exposed, in some seasons the best improved ground may not produce even five bushels." The average of rye, one year with another, was also ten bushels; of Indian corn and buckwheat, fifteen each; of oats, twenty. "A farm of two hundred acres will on an average support twelve head of cattle, twenty sheep, and ten hogs." We think the figures of our friends in Bucks county at the present time, would afford something of a contrast to the above, and a contrast that would show the folly of much that has been in print about "our exhausted lands here at the East." A writer from near Philadelphia says, "about eight bushels of wheat per acre, is a full allowance *for the better kind of farms* in these parts." The italics are ours.

Arthur Young writes, in one of his replies: "Is it possible that the inhabitants of a great continent not new settlers, who live only to hunt, to eat, and to drink, can carry on farming and planting as a business, and yet never calculate the profit they make by per centage on their capital? And yet this seems to be the case." And although our farmers occupy their own time more industriously than the planters of that day, the reproach is equally applicable to them now; they are cultivating the soil "as a business," and not engaged mainly in hunting and eating and drinking; but yet how many of them out of a hundred or a thousand, can accurately state the per centage of his profit upon his capital?

Thomas Jefferson wrote (1793): "We can buy an acre of new land cheaper than we can manure an old one. Good husbandry with us consists in abandoning Indian corn and tobacco: tending small grain, some red clover, fallowing, and endeavoring to have, while the lands are at rest, a spontaneous cover of white clover."

In a letter to Washington, in 1796, Sir John Sinclair suggested the establishment of a Board of Agriculture or some similar institution, under the General Government, "with Societies of Agriculture in the capital of each State, to correspond with it." A reply to this letter was written by Washington, March 6th, 1797, two days after he retired from his eight years Presidency of the Union he had done so much to establish—in which he says: "I am sorry to add, that nothing *final* in Congress, has been decided respecting the institution of a National Board of Agriculture, recommended by me, at the opening of the session. * * I think it highly probable that *next* session will bring this matter to maturity."

In a letter to Arthur Young (1788) Washington writes: "I cannot help thinking that increasing and improving our breed of sheep would be one of the most profitable speculations we could undertake; * * * so persuaded am I of the practicability and advantage of it, that I have raised nearly two hundred lambs upon my farm this year. I am glad to find that you are likely to succeed in propagating the Spanish breed of sheep in England, and that the wool does not degenerate: for the multiplication of useful animals is a common blessing to mankind. I have a prospect of introducing into this country a very excellent race of animals also, by means of the liberality of the King of Spain. * * I have likewise a jack and two jennetts from Malta, of a very good size, which the Marquis de la Fayette sent me. The Spanish jack seems calculated to breed for heavy, slow draught; and the others for the saddle or lighter carriages. * * * I am convinced from the little experiments I have made with the ordinary mules, which perform as much labor, with vastly less feeding than horses, that those of a superior quality will be the best cattle we can employ for the harness; and indeed in a few years I intend to drive no other in my carriage, having appropriated for the sole purpose of breeding them, upwards of twenty of my best mares."

In the same letters from which the last two quotations are taken, we have striking instances of the modest and unassuming character of the man who had then been attracting for some years more of the world's attention than any other individual, and who writes of the details of agricultural management as though he had not also the management of public affairs upon his shoulders. In the former he speaks of "having resigned the chair of government to Mr. John Adams on Friday last," as one might mention any ordinary event of little consequence; and, in the latter, in answer to a request from Arthur Young to publish extracts from the correspondence in his Annals of Agriculture—Washington says, after expressing cordial approval of the design of the work: "On the one hand it seems scarcely generous or proper, that any farmer, who receives benefit from the facts contained in such publications, should withhold his mite of information from the general stock. On the other hand, I am afraid it might be imputed to me as a piece of ostentation, if my name should appear in the work. * * I have endeavored in a state of tranquil retirement, to keep myself as much from the eye of the world as I possibly could. * * I wish most devoutly to glide silently and unnoticed through the remainder of life. This is my heartfelt wish; and these are my undisguised feelings. After having submitted them confidentially to you, I have such a reliance upon your prudence, as to leave it with you to do what you think, upon a full consideration of the matter, shall be wisest and best."

[For the Country Gentleman and Cultivator.]

Rotation of Crops for Dairy Districts.

Messrs. L. Tucker & Son—In a strictly dairy region of country, the production of the grass crop—pasture and meadow, is the one great subject of interest; consequently the rotation of crops, the profits of grain raising, &c., attract but little interest. If we keep our cows well, all we care to sell is our butter and cheese. If our meadows fail we plow them, taking up the parts most run out—plant corn on the sod, and seed down the next year with oats or barley, so that each year we have Indian corn and oats or barley to feed to our cows, and we buy our flour. Some dairymen, it is true, sell their coarse feed, but the dairy suffers no doubt to a certain extent.

The limited "rotation of crops" here hinted at, is about all we care to study, and a *few more cows* the constant aim and end of the dairyman's desires—cows and dollars being synonymous terms. While preparing to renew our meadows, the corn crop is certainly a valuable adjunct, and he who succeeds in getting a good one, has "struck a vein." To dairymen, the most of my experiments, however prosily told, may be of interest, and so please present through your columns the paper herewith.

I did take great interest in the manufacture of cheese; but progress, progress, is the order of the day, and we go into it now wholesale. My milk goes in with the milk of 700 cows, and comes out a factory-made article of commerce. "Our factory" has just sold at 14⅛ cents per pound.

My Corn Crop--How Managed, Results, etc.

Messrs. Editors—I will not attempt to give you an "account current" with my field of Indian corn, nor figures to show how much it has cost to cultivate it, but I have a good crop, and wish to tell how I got it; and first, the land lies handsomely facing the south, the soil good—on a tenacious clay subsoil,—not too wet, at least was not this season. We plowed early in spring eight inches deep with one of J. & G. Lord's plows, No. 60, which turned the sod very handsomely. We had constantly to remark that soil *never before disturbed* was being turned up to the surface, (we note this as one element of success.) We went over the whole with a good cultivator drag, and commenced planting on the 20th May—the land being marked each way, three feet six inches, with a heavy marker. Six years ago I got of a neighbor my seed-corn, which was then, I was told, eight-rowed yellow flint; each year since I have saved my own seed, rejecting in planting the buts and tips. I think I have improved it every year, and now it is 12 and 16-rowed, mostly the latter, and I make no vain boast when I say it is *splendid.* We did not manure before planting, but before the first hoeing we applied a liberal dressing of *prepared night-soil* on the hill. We had saved but twelve barrels of this, which did not suffice for the whole piece; and now for the result.

At the proper time, and before frost, we cut it up and put ten hills in each stook—over 1,000 in all. We are now husking it, and day after day we get a good bushel of sound ears from two stooks or twenty hills, up to the line of manuring—beyond that it takes thirty hills to fill the same bushel basket, the treatment of the crop being alike in all respects except the manure. I deodorized my night-soil with air-slacked lime, say two-thirds of a barrel, with leached ashes and common earth, in all enough to make the twelve barrels; threw it into a heap, and worked it over before using. There was nothing repulsive in the use, but during the first process the lime disengaged so much ammonia that at times it was almost suffocating, (*Mem.*, this year I use no lime in composting for next year's crop.) We cultivated and hoed twice, and raised very few weeds, but a tremendous crop of pumpkins. We get no soft corn, but with nubbins and the ears which occasionally fell to the ground and become soaked, and some tied too close under the band being mouldy, about every eleventh basket goes to the pigs.

I have not measured my crop, for it is not gathered yet, but those curious in such matters figure it at about 80 bushels to the acre as far as manured, and between 50 and 60 were not manured. We had no trouble with wireworms, while my neighbors on each side had their crops almost ruined with them.

Looking the ground over, I conclude *deep plowing* advisable; *stable* or *hog manure* in the hill or otherwise, as used by my neighbors, objectionable, as breeding worms; *night-soil compost* valuable, without any tendency to breed worms or weeds.

I will add that this is not my first nor second trial with prepared night-soil, and I have yet to record the first failure. I am satisfied that it pays.

One word about P. J. Sherwood's system of farm accounts, current vol. Country Gent., page 251; my experience convinces me it is *impracticable.* It may be to a certain extent a good pastime, but farmers generally have something to do. A daily record of leading events is very desirable—one which should include income and outgoes, accounts with workmen, &c., but the details he recommends would occupy one man's time the season round, almost. D. "*Fisk Farm,*" *Oneida Co.*, *Oct.* 16.

[For the Country Gentleman and Cultivator.]

Management of Wet Barnyards.

Eds. Co. Gent.—I see an inquiry in the last Co. Gent. from J. McC. of Newfane, N. Y., what to do with his barnyard, which is nearly level and almost impossible to keep dry.

Having had some experience with such an one, I will tell him how we managed. Some twelve or fifteen years ago, my father thought of the idea of planking the yard with hemlock plank two inches thick. We accordingly procured enough to cover a little more than one-half of the yard, which are now nearly sound, and will probably last five or ten years longer.

The manner of laying the plank was as follows: Take good, sound, straight slabs, bed them into the ground (flat side up,) so that the upper side of the slab will be level with the top of the ground. For twelve feet plank we use three stringers, and for 16 feet use four. They are then ready to receive the plank, which will need no nailing or fastening, unless they may happen to come near a driveway, or something like that.

Should Mr. C. plank his yard, he will not only find it dry, but very convenient about getting out manure, which alone would nearly pay for the expense of planking.

Chenango Co., N. Y., M. E. MERCHANT.

[For the Cultivator and Country Gentleman.]

IMPROVEMENT OF SOIL BY CHARRING.

One of the most permanent and paying improvements that can be made to a garden, in which the soil is heavy and cloddy, although well drained, is effected by collecting chips, brush, stalks, and other vegetable matter, and, during the dry weather of autumn, charring it into coal. The heat of this coaling will also clear a quantity of sod and the sod itself, and all the coaled matter thus produced, will remain for ages light and friable, easy and safe to work in wet or dry weather.

Another advantage resulting from this simple process of amendment, is that the light-colored clay becomes dark, absorbing heat, and advancing plants fully two weeks earlier than the un-ameliorated soil.

Another important advantage is that the charring destroys from the soil, for the season, all the minute, predaceous, scarcely suspected, insects which destroy so large a proportion of our cultivated crops. The seeds and roots of weeds are also effectively destroyed.

Another is that the mellowed earth never compacts with rains, and the needed air is constantly admitted, without a constant necessity for hoeing.

The carbonized matter at the open surface, absorbs the gases which nutrify plants, much more freely than the unporous clay, and the rains carry down to the roots rich supplies of carbonic acid and ammonia; these impart the luxuriance of color and the rich foliage which always follow the use of a charred dressing. Vegetables are more tender and succulent, and sweeter. A handful of charred stuff applied over a clump of flowers, bulbs, or bedding plants, brings out color and growth "like a charm."

Some soils are not benefitted. Perhaps in some cases unfavorable chemical changes are induced by the heat; in others, favorable ones. So far as texture of soil is concerned, a ready test of the adaptation of the process is made by putting a handful of the soil into a small pot or pan which can be covered closely, and placing it in a fire until charred through. It will surprise many a one who has never made the experiment, to find a lump of tough, clayey subsoil, apparently devoid of vegetable matter, after a short roasting changed in color to nearly black, and so permanently friable that a mire or paste cannot be made out of it.

The process of charring requires more of time and watchfulness than of skill. If the fire passes into the heat of flame, it will consume the coal and leave nothing but valueless brick-red earth, and a little ashes. Some other job should be on hand within view of the charring-pit, so that a constant eye can be kept on it for a day or two.

The material should be dry enough to burn readily; brush should be cut or broken up, so that it can be packed closely for burning. A shallow trench about two feet wide, and as long as may be necessary, is prepared, and sods are dug or plowed up alongside, and exposed to the sun to dry. When ready to burn, the brush, chips, &c., are packed in closely to a height of about two feet, leaving openings to the bottom at every three or four feet, to admit of firing it near the bottom and middle of the pile. Sods are laid over the heap, leaving only openings for draught. Set the fire early in the morning. As the flame breaks out, it is checked and stopped by applying other sods and clay, and the fire is drawn towards unburnt parts of the pile, by making openings there for draught. When all is charred, the heap may be pulled apart to cool, and unburnt sticks can be heaped together with some coals, and covered until charred.

Keep the material thus prepared, for use in the spring as a surface dressing. W. G. WARING.

Center Co., Pa., Oct. 1863.

FOUL IN THE FOOT.

A New-Jersey subscriber asks a remedy for "foul in the foot"—having exhausted all within his reach without effect.

I am using for foot rot in sheep—my flock being badly affected with that disease this season—a composition composed of,

Corrosive sublimate,	2 drs.
Venice turpentine,	1 oz.
Lard,	1 lb.

Dissolve the corrosive sublimate in half a tea-cup of warm water, and incorporate this solution and the turpentine with the lard cold—clean the part affected and apply this paste. It is a powerful remedy for foot rot, and from close resemblance of the disease, would seem worthy of trial, all other things having failed, for foul in the foot. It is a poison, and should be carefully handled.

A MARYLAND FARMER.

HOW I RAISE MY FALL PIGS.

I always try to have them farrowed in the fore part of September, and when three or four weeks old put the sow and pigs in with my fatting hogs; where they have for the first month, plenty of boiled potatoes, pumpkins, &c., with meal, and then finish off with a month or more of corn; care being taken to have plenty of yard-room, so there will be no fear of the small ones getting hurt. Also have a place where the little ones can go by themselves and get a drink of milk at their leisure, as I find they are very thirsty in their habits. We usually allow them to run with the mother in this way until they are from eight to ten weeks old, when they will ordinarily be in a good thriving condition for winter, as I find a late poor pig is poor property in December.

Salisbury, Conn. W. J. PETTEE.

POULTRY POISONED.

EDS. CO. GENT.—I have no remembrance of having seen or heard of the diseased potato, or potato rot, injuring any beast or fowl until recently, when in a flock of forty, old and young, thirty died. Probably about all that ate the rot, were attacked and died within thirty-six hours, on this ranch

Symptoms.—Closing of the eyes, rush of blood to the head, which they cannot hold up, nor stand erect.

We commenced various experiments upon them without any good results. At the last we raised two out of three that appeared as bad as the others, by giving them doses of soda in lumps the size of a pea, and water, with an occasional feed of soft sour dough or yeast. They began to amend the third day. Have recently heard of another person near Los Angeles, losing his birds, by feeding on bad potatoes.

Saleratus or soda is an antidote to poison. In this country horses are often bitten by snakes. By pouring down saleratus water freely, the animal is cured. In the case of the poultry, the yeast fed them, I think, was an assistant to recover. S. W. JEWETT. *Rio Bravo Ranch, Cal.*

Protecting the Peach Crop from Winter.

We have on former occasions expressed the opinion that peaches may be had, with some labor, every year throughout the Northern States. A few experiments have been made in different places, and the result has been more or less successful. A question is as to the easiest and best method of protection. Several have recommended training trees low, bending down the branches and covering them with earth in the same way that raspberries are commonly protected. An objection to this mode is that the rigidity of the peach limbs prevent them from lying flat on the ground; and another is, the liability of the buds to become water-soaked and rot unless the earth covering is removed the very day the frost leaves it—especially if the soil be strong or heavy. We tried a few experiments last winter, a statement of which may be interesting to those having the same object before them. The winter was favorable to such experiments—in other words, it killed every exposed fruit bud on the peach in the neighborhood—not a solitary one was seen that had escaped. One set of experiments consisted in drawing a bundle of the shoots together up on the tree, and covering with moss wrapped in paper or sacking; an inch or more of fine moss was thus placed around the shoots, but it failed to afford the desired protection—all the buds were destroyed by the cold. Perhaps a casing of oil-cloth, to shut out the rain and keep the moss perfectly dry, would have succeeded better. The object was to obviate the necessity of bending down the shoots, and large portions of the tree might thus be secured with but little labor. The substitution of evergreen leaves for the moss would unquestionably have been an improvement, had they been at hand. Another trial was made by bending down the low branches nearly to the earth while they were growing the previous summer, and covering these with bundles of corn-fodder. A single bundle, or a single thickness was found insufficient to keep out the cold, and did not succeed; but two or more thicknesses afforded ample protection. Their branches were loaded with blossoms, and have now crops of fruit. Some of the trees were encased in small stacks of corn-fodder, but the workmen, performing the experiment in the absence of the owner, did the work quite imperfectly, leaving large openings through which the cold air swept. Only a few of the buds were consequently saved. There is no doubt that this mode of protecting the peach crop, would be an easy and efficient one for farmers who raise corn. The peach orchard should be adjoining the cattle-yard, and kept clear of grass and weeds so as not to invite mice. The fodder should be drawn early in winter, and neatly stacked about the trees, which for this object should be kept pruned in compact form. After the season of severest weather has passed, (which varies in different localities, but which is usually after the lapse of about two-thirds of the winter,) the fodder may be taken away from the trees and fed to the cattle. Every farmer who raises much corn, may thus protect a dozen or two of trees with no additional labor.

In regions where evergreen trees are abundant, the protection of evergreen boughs, whether it be by covering the prostrate limbs, or by encasing the shoots higher on the tree, would be neater and doubtless more efficient. J. Battey of Keeseville, N. Y., states that he has been entirely successful by using an evergreen covering of only a few inches, although the thermometer in that region often goes down to 30 degrees below zero. He found no difficulty in obtaining peaches every year. The only question was the economy of the experiment—which we hope will be tested by some of our enterprising fruit-raisers in cold regions.

APPLE TREE SHAKER.

Any one who has made a business of climbing and shaking apples, or of poling them off, knows that it is no very funny job. I used an arrangement last year, and some this, that I think is ahead of either. It is simply a hook on the end of a pole, with which you can stand on the ground and reach into any part of the tree, and do better execution than you could to shake or pole them off. I would not recommend this for all kinds, but for hog and cider apples. W. E. M.

[For the Country Gentleman and Cultivator.]

FENCES--ORCHARD GRASS.

Your correspondent S., asks for "a strong portable fence, easily put up and taken down, and strong enough to enclose cattle and sheep, that will not cost too much." Good, straight chestnut fence rails, put up in the worm or zig-zag form, will meet these requirements fully and satisfactorily. The fence will cost about a dollar per rod. When dry the rails are light, easily handled, quickly put up and taken down, and will last a life time. If the man lives twenty years, the cost to him, including interest on first outlay, will be only 12 cents per rod per year. Credit the fence with its use and the cost is nothing, with it still on hand and sound.

I fully agree with a Kentucky correspondent as to the value, or rather want of value, of orchard grass; while the stems are hard and harsh as he describes, the blades are soft and flabby, rendering it totally unfit for hay. Its only recommendation, as he states, is for early pasture, but with all the drawbacks he sets forth. This opinion is founded upon twenty five years' experience and observation. A Maryland Farmer. *October* 20, 1863.

[For the Country Gentleman and Cultivator.]

A SUGGESTION IN COOKING FEED.

How to get a good cover for Mott's agricultural boiler—buy a good tight molasses hogshead; saw the bottom off, say 18 inches from the head, very true and even; saw a circular hole in the bottom ten inches in diameter, dishing, so that the piece taken out will do for a cover. When you use your boiler, fill it even full of potatoes or whatever you wish to cook; put on the cover, and fill the top full through the trap-door, and if the hogshead is of the right size and fits well on to the top of kettle, so that but little if any steam escapes, you will find a great saving in fuel, as you can both cook one-third more, and do it with very much less fuel, than without any cover or only a loose one. My own is a two-barrel kettle, and can cook it full of potatoes and pumpkins in two hours, with one very large handfull of seasoned wood. It is all important, however, that the apparatus should be well fitting, so as to preserve all the steam. W. J. Pettee.
Salisbury, Conn.

Whatever you cultivate, says an English exchange, let it be of the best kind. A few choice, well-grown plants, whether in the borders, conservatory, or greenhouse, will afford more enjoyment than a mass of ill-selected varieties crowded together without taste or judgment.

S. W. Hall and his "Yankee Farmer."

Eds. Co. Gent.—I had the pleasure some time since, of calling on your correspondent, S. W. Hall of Elmira, and as I was much interested in some of his farm operations, and farm implements, I have thought of "jotting down" for the benefit of your readers, some of the impressions that I received. Mr. Hall's farm is one of the finest in that section of the State, all of it, I believe, intervale land, easily tilled, and within a stone's throw, almost, of the thriving and beautiful village of Elmira, and altogether a very desirable place for the home of an intelligent farmer. I found Mr. Hall busily engaged in pruning a beautiful pear orchard of one thousand trees, not yet in full bearing; and the thorough culture and care it had received, convinced me at once that he did not belong to the "slip-shod" class of farmers, but one of those thorough, intelligent workers who are the pride of our profession, and public benefactors to the community in which they dwell. I say benefactor, for the reason that *very* dull men can hardly help being benefitted by a living example of thriving, intelligent industry in their very midst. Mr. Hall prides himself I think, and it is a laudable pride, on not only *seeing* and *directing* the labors of his farm, but with his own hands *doing* what can be done by himself better than by another, thus setting an example of industry, not only to his hired laborers, but to every man in the community desirous of success and willing to labor therefor.

From Mr. Hall's description of the farm as it came into his possession a few years since, and its present appearance, I could easily see that he had been systematically at work, digging, manuring and grading those long neglected acres, until they had become eminently beautiful and productive, and sure to yield a rich reward for all the care and labor bestowed upon them. Adjoining the pear orchard was the somewhat famous "carrot patch," over which there has been considerable discussion in the columns of the Co. Gent. It was too early in the season for me to judge of the crop by the actual show of roots; but the thorough culture witnessed gave good evidence that the autumn would bring a bounteous harvest. The long, straight rows were graded and sown by his "Yankee Farmer," but it seemed to me that a score or so of professional gardeners had been at work for a long time, with spade and rake and line, to form such evenly graded rows and so nicely fit the soil for the young and tender plant. Scarcely a weed could be found in the whole field—some five or six acres. Not many of our farmers' gardens would at all compare with Mr. Hall's carrot field, in neatness, taste, and good cultivation.

The culture of all root crops in rows entirely by hand, as far as my experience goes, is a very tedious affair. From early boyhood I have some recollection of this kind not at all agreeable. But here Mr. Hall almost entirely dispenses with hand labor, and raises his crop of valuable roots much cheaper than by hand, and with greater neatness and dispatch. The cornfield, fitted, planted and tilled by the same implement, was also visited; and here I saw the same uniformity of work, the same nicely graded rows that I had previously seen and admired in the carrot field. I had not yet seen the implement at work, and could hardly rid myself of the idea that the hand had had something to do with the neatness and regularity that I everywhere saw. But on an adjoining farm Mr. Hall had hired and planted a large field with potatoes, and to this we repaired in order to see the "Yankee Farmer" at work. The field had been ridged and planted by this implement, and it was now cultivating or hoeing them, and hoeing them WELL. The nicely adjusted knives were cutting up the weeds and stirring the soil close up to the young plants, and leaving the soil where it passed as mellow as an "ash heap." This field was full of that troublesome "quack grass," but wherever the polished knives of the "Yankee Farmer" went, the quack made but a sorry resistance, for it was cut up, dug up and left to wither in the sun. With the machine once started on its track away it went, unguided by the driver's hand, *very seldom* disturbing a young potato plant, although it dug up the earth and eradicated the weeds in *very* close proximity to them. It was *tilling* the *soil* BETTER than I had *ever seen it done* by hand in *large fields.*

Mr. Hall exhibited his Yankee Farmer last year at the State Fair, and if my memory serves me right, it received but little commendation; nor do I believe such an implement can be judged correctly, only as it is tested in the field. When not in use it strikes the observer as rather a cumbersome affair, and not very easily managed. I do not wish to influence any one to purchase or use this implement, as I have no interest in its sale or manufacture; still, in writing of what I saw, I wish to record my own impressions correctly. To sum up in a few words, I would say, that for all crops planted on ridges and in drills, this machine I believe to be a valuable one; provided first, that the fields are of *good size,* as quite a space must be left at each end for turning upon, and secondly, that the land to be tilled be very free from *stumps* and *stones.* These conditions are indispensable. Whether it is policy to cultivate most of the hoed crops of the farm in this way, is a question that I am not prepared to answer.

From the potato field we went to the barns and other out-buildings, and last, though not least, to the manure heaps, where all the refuse of a large village that can be picked up and carted away, is composted and made serviceable for the growing crops. He keeps one team principally employed in this way. Bones, the refuse of the butchers' shops, dead animals, &c., are here made of great permanent value to the farm, as well as present profit to the owner. Nor are the droppings of his own cattle suffered to waste away in exposed places—every thing of this kind is saved as the miser saves money. Mr. Hall uses large quantities of spent tan bark as an absorbent in his stables, thoroughly drying before using, and expressed himself highly pleased with the results. Many farmers are so situated that they might be largely benefitted by his experience in this direction, would he give it publicity in the columns of the Country Gentleman.

I have written at greater length than I intended, but in connection with this are two thoughts that I wish to enforce. One is this: the change that a few years of energetic, intelligent toil can effect in a worn-out, badly used farm, is truly wonderful. The difference between a *productive* and an *unproductive* farm, is just the difference between *gain* and *loss;* one *pays,* the other does *not pay.* The other is, that in this age of mechanical improvement, it will not do for the farmer to shut his eyes and continue to toil on in the old ways of manual labor. It is the glory of our age that the sinews of the agriculturist have been vastly relieved by the cunning hand of inventive genius, and he who continues to travel on in the old way, unmindful of this, will find himself travelling *away* from *home.* Cheap tillage and good crops are pretty sure to make farming pay. Good tools will materially assist in accomplishing the first, and a plenty of good manure, properly applied, will make the farmer's harvest an abundant one.

J. E. Sherman.

How to Pay the National Debt.—J. Harris states in his address before the Monroe County Agricultural Society, that there are 163,000,000 acres of land under cultivation in the United States, and that if we should increase the products of our farms only one dollar per acre, this alone would very soon pay off our national debt. This proposed increase will seem to be a very moderate one, and entirely within the bounds of easy attainment, when it is remembered that our best farmers obtain from their land at least double the average product with much more than double the average net profit. This improvement they generally reach by adopting the best modern systems of management, and availing themselves of the suggestions of agricultural papers.

THE COST OF MAKING CHEESE.

Mr. X. A. Willard, in an article in the Transactions of the State Agricultural Society, a pamphlet copy of which he sends us,—contrasts the cost of cheese making at home and in the factories, as follows:—

Cost of Manufacturing Cheese in Families, etc.—In order to compare the two systems understandingly, it will be well to make an estimate of the actual cost of manufacturing cheese after the ordinary methods, say from a dairy of forty cows, together with the care and marketing of the same. We estimate from the point when the milk is in the vats:

Original cost of cheese house, including tables, &c, ...	$410.00
Vats and heater, ...	50.00
Press, hoops, curd knife and other utensils, ...	40.00
	$500.00
Annual interest on original outlay,............	$35 00
Dairy maid, say half time for nine months, including board..	60.00
Man's time about the dairy, turning cheese, &c., &c., say average of one hour each day for nine months—twenty-five days at $1, ...	25.00
Annual cost of fuel, and its preparation for vats and curing room.	15.00
Man's time, boxing and marketing cheese, including team, say two days per month—eighteen days at $1.50,..	27.00
Annual wear and tear of dairy utensils, and keeping buildings, &c., in repair, ...	15.00
	$177.00

Forty cows, averaging 500 lbs. cheese per cow, gross amount	20,000 pounds.
Cost per pound for manufacturing, nearly............	9 mills.
Thirty cows, 15.000 pounds, say,............	11 do.
Twenty cows, 10.000 pounds, ...	17 do.

It will be seen then, that the cost of barely manufacturing cheese in single dairies will average a little more than one cent per pound, and this sum, for the most part, is the actual cost in cash paid out, for we have not taken into account the general supervision and care necessary in the manufacture and curing of cheese, which cannot be entrusted to domestics, but must daily occupy the time and attention of the proprietor or some portion of his family, who have something beyond mere wages to stimulate to action. And here it may be proper to observe that one of the inconveniences which is widely felt among dairymen, results in the difficulty of obtaining careful and reliable hands for the management of the dairy. If it is desired to make a first class article, cheese that will command in market the highest price, all the operations of manufacture must be performed by tried and skillful hands—hands that can rarely be obtained for hire, and when obtained, commanding comparatively large wages.

Now as cheese making is an art which must be learned like other trades, and as most of its operations are performed by females, the dairy farmer may be said to have for the most part, nothing but apprentices in his employ, since, when his dairy maid has been carefully taught the trade, she marries, and is at once lost to the laboring community.

Cost of Manufacture by the Factory.—The cost of manufacturing cheese is to the farmer one cent per pound; rennet, salt, bandage, annatto and boxes, as well as the carting of cheese to market, being charged to the association and paid by each dairyman in proportion to the quantity of milk furnished during the season. The whey, as has been before observed, belongs to the factory.

All other expenses, including the care of the cheese while curing, &c., is paid by the manufacturer.

To run a factory using the milk of 600 cows will give constant employment to at least four persons, half or more of whom may be females.

At one of the factories near Rome, N. Y., in 1862, the price paid for the services of a man and woman, who were foremen of the establishment, was one dollar each per day and board; others received from two dollars to four dollars per week; and I was informed that the actual cost of manufacturing the milk of 600 cows for the season was $700. It is presumed that this sum did not cover interest on capital invested for buildings and fixtures, but was the amount paid out for labor, board, fuel, &c.

From these data it will be easily estimated what amount of money can be realized from the business of manufacturing. Allowing that the 600 cows produced on an average 400 pounds of cheese each, there will be in the aggregate 240,000 pounds. The cost of a well constructed factory will not be far from $3,000.

We have then 240,000 pounds, at 1 cent, ...		$2,400
Cost of running factory,............	$700	
Interest on buildings, &c,...	210	
Annual wear and tear, or depreciation of property, ...	200	
		1,110
Profits,............		$1.290

Now, for 300 cows, nearly the same expense would be incurred, and the factory account would stand thus:

120,000 pounds cheese, at 1 cent, ...		$1,200
Expenses of running factory, ...	$700	
Interest on capital invested,............	210	
Annual depreciation of buildings, fixtures, &c., ...	200	
		1.110
Profits............		$90

We do not pretend to give the exact figures in the above estimates, but it will be seen that a factory manufacturing the milk of a less number than 300 cows will not be a very paying business, unless the manufacturer can have most of the work performed by members of his own family.

Those desirous of farther information on the process of cheese making adopted in the factories, and other details, will find an article on the subject in the Annual Register of Rural Affairs for 1864, just out.

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ONION CULTURE.

Eds. Co. Gent.—I have frequently noticed in the Co. Gent. inquiries in relation to cultivating onions; in the last number is one for some work upon the subject. I send you by this mail an article originally published in the Transactions of the Queens County Society for 1862, founded upon my experience in the business.

In pursuing the method advised in that article we have raised and secured in good order, 7,000 bushels from 11 acres the past season, which may be considered a tolerably fair test of its correctness, especially as the season has not, in all respects, been favorable.

The production of onions is rapidly increasing in Queens Co.; five years ago 500 bushels would have covered the whole crop of this town, (Oyster Bay,) this year it will fall little short of 10,000 barrels.

Matinecock, Oct. 26, 1863. DANIEL K. YOUNGS.

A Premium Essay, on the Culture and Treatment of Onions.

It is proposed in treating this subject to confine the remarks principally to those most cultivated for the market—such as will stand a sea voyage, rather than those which are raised exclusively for local consumption, although in many respects, indeed most, they will apply equally to all.

Varieties.—It seems not to be well understood, or if so, but little heeded, that to cultivate Onions successfully, care must be taken to keep the different varieties separate, and that even more attention should be given to difference of shape than color; particularly will this apply to red onions, of which there are three distinct varieties, ripening at such different periods as renders a mixed cultivation next to impossible. The first and earliest are flat or cracker shaped, concave at the stem, known as Cracker Onions, will grow to maturity ten days sooner than the next or second early; these are deeper than the first, with a slight indentation around the stem, and ripen about two weeks before the last, or Late Onions, which are globe shaped, and of a deep red color, are the best for keeping, have stronger tops for bunching, and should be raised in preference where an early crop is not desired.

Seed.—To secure pure seed of these kinds, or indeed of any other, great care must be taken in selecting the bulbs for planting. This is best done by going over the beds and gathering such as have ripened at the same time, with the tops well down and yellow, immediately before the crop is pulled. Spread these on the ground for a few days till the top is dry, when they should be stored not more than a foot thick, in a dry airy place. When the weather becomes cold or when first frozen, cover with any dry litter and exclude a draft of air. Before planting cut off the tops even with the bulbs, that the new shoots may come up straight in the rows. Plant the different kinds at such distances apart as shall insure against mixing when in blossom, (100 yards is quite near enough.) Select a reasonably moist soil, and give a liberal covering of such short manure as is at hand, plow to the depth of eight inches, thoroughly harrow, bush, and rake smooth. Mark off for rows three feet apart, stretch a line and trench with a hoe three inches deep, set the bulbs six inches distant in the trench, and cover, leaving the ground nearly level. The trenching may be done with a small plow, but not as well or as neatly. Use for working, a cultivator, or any implement that turns but little furrow, until the seed-top runs up, then turn a good furrow to the row, and leave it well rounded; this will prevent, to some extent, the tops lopping about and breaking with the wind. Late cabbage or turnips may be planted between the rows after the last plowing.

When the seed vessels begin to open, and before much loss occurs, cut off the heads with about an inch of the stalk, and carefully deposit in tight baskets, where it should not be allowed to remain long, as it will heat in ten or twelve hours. Spread as soon as convenient, in a single layer, on lath or net frames, exposed to a free circulation of air; leave in this situation until the whole head becomes brittle, so that it will readily rub in pieces between the hands, say six or eight weeks; during this time much of the seed will fall out; this is considered the best, and may be collected and kept by itself. Collect the heads on a tight floor, and rub or thresh till all the seeds are detached, and clean with a grain fan, or what is more effectual, immerse in a tub of water, when all the good seed will sink and the chaff may be poured off; it must then be dried by spreading in the sun, with as little delay as possible, to prevent sprouting, which may occur in the course of two hours. Before the general planting the seed should be tested by planting a few in a hot-bed, or if in much haste, tie up a small quantity in a piece of muslin and place it in a vessel of boiling water, in a few minutes all the good seed will be found sprouted.

Seed Beds—Planting.—Onions may be grown from seed on most soils, from a light sand to a heavy loam, but an easy working sandy loam, such as is not likely to bake, and free from stones is most desirable; in order to insure a full crop the first year, it should have been well manured and kept clean for one or two previous seasons.

Spread liberally, with short fresh manure in the fall, or well rotted in spring; of course the kind and quantity, must, in a great measure, be determined by circumstances. I would give horse-stable manure the preference (we use it at Matinecock, Queens County, almost exclusively, at a cost on the land of sixty-five cents for fourteen bushels, the New York cart load, and about one hundred loads to the acre,) but any manure on the farm if applied in a proper state, will produce good results, as will guano, fish, ashes, or plaster, but with the exception of fish, I would advise these to be used in addition to other manures, say 250 to 300 lbs. of guano to the acre, sown before harrowing, or carefully between the rows after the first hoeing. As the roots will penetrate to the depth of fourteen inches or more, the subsoil plow should be used, but the manure should be mixed as thoroughly as possible with about five inches of the surface soil.

As it is highly desirable to plant early, plow as soon as the state of the ground will permit, and harrow thoroughly use a bush harrow to break the lumps and smooth the harrow marks, lay off in beds twenty-five yards wide and *rake even and fine*—this last is very important.

If the object is to raise only barrel or bushel onions, the beds should be marked for rows thirteen inches apart, with any instrument at hand; a rude and cheap but convenient marker is made of pine plank two by three inches with pins six inches long inserted thirteen inches apart, the same as harrow teeth, with a tongue five feet long to draw by, so attached as to hold the teeth perpendicular when raised to the position it would naturally be held in drawing; draw this by a line the first time and then let one outside tooth follow in the last mark; if it should become slightly crooked, straighten by the line as at first. This applies only to drills, planting one row at a time; for this purpose four pounds of seed (or about ten seeds to the foot) will be sufficient for an acre, and may be planted with any good brush drill that will deposit and cover about half an inch below the surface. This should be followed with a light garden roller to leave the surface as even as possible for the first hoeing.

As soon as the rows can be traced, work out with a shuffle-hoe, and commence weeding a few days after, or as soon as any can be found in the rows. To keep the beds at all times clean, which is by far the cheapest and best way, this should be repeated about every ten days, till the tops begin to fall, which will require one tolerably active man to a moderately weedy acre.

For bunching, from six to eight pounds of seed, according to strength of soil, is required, usually six pounds is enough. These should be planted in hills for various reasons: less hand weeding will be required, the size will be better graded for bunching, will bottom with more certainty, and mature a little earlier. For this work the Bristol (Rhode Island) drill is a good machine, planting two rows at a time, one foot apart and six inches between the hills. The number of seeds to the hill will vary from five to fifteen. None but the most careful and observing hand should be selected to run this or any other drill.

For working, a very light, narrow drag hoe should be used, hung so as just to shave the surface; with this an expert workman will keep two acres clear without overworking.

When a large business is attempted, the three kinds should be planted in the proportion of one acre first early, two acres second early, five acres of late. As the first early have weak tops, they should be pulled before any of them become dried, about as soon as they have fallen and slightly yellowed. Three or four days of good weather will be sufficient to cure the tops; they should then be cut and thrown in heaps of about half a bushel, and allowed to remain two or three days, or until the top is well dried, before housing. By this time the second early will have sufficiently matured, and as they in a measure have the same defect of top as the first, they require about the same treatment. If planted in the proportion and quantity suggested, with the ordinary number of hands, say seven or eight, the late ones will now be ready, when the pulling must keep pace with the ripening, but these having strong tops will not require the nice care of the others, as they may be allowed to remain longer without topping and in the heaps, if not convenient to house immediately; but success in keeping, provided proper buildings are prepared for storing, depends upon pulling at the right time; never wait for a growth after the tops fall and yellow; there is danger of starting new roots, which is fatal to the crop. Allow them to remain exposed to the sun only as long as is necessary to dry that portion of the top remaining with the bulb, or the color will be injured. Cut at least two and a half inches from the bulb, or just below the junction of the leaves, and leave in heaps till the stems are soft and dry; turn the heaps after the dew is off in the morning, pick out all large enough for barreling, reject the hard necked ones, and house before the dew begins to fall.

On pulling let each workman take six rows, pull three at a time, laying the bulbs evenly where the middle one is taken out, with the tops straight towards or across the right hand row; when across the bed, turn to the left and take the remaining three, and lay as before; this will leave a space between the rows of bulbs the width of three rows, or about three feet for the heaps when cut. Cut in the same direction, with the left hand always to the bulb, and cast immediately in heaps about two yards distant, and finish up each round; in this way six rows will make one row of heaps, with the space for depositing them always clear of tops, and the work greatly facilitated; for a left handed workman reverse the whole thing.

When the crop is larger than can be readily marketed from the field, or when it is desired to hold late in the season, a building should be prepared expressly for the purpose; the usual resort for storing a surplus, the barn floor, stable, wagon house, corn-crib, &c., &c., will serve for a small quantity spread thin, but a quantity that will not admit of spreading, cannot be secured in them with any kind of certainty, except certainty of loss. This is bought knowledge dearly paid for.

Onions for setting known in the market as Rare-ripes.—In bunching there will be some rejected that are too small; these may be kept for early sets or rare-ripes—spread a few inches thick as they are not apt to keep well in bulk before cold weather. Plant early with the ground prepared the same as for raising seed, in rows fourteen inches apart, stick them in the row with the thumb and finger, right side up, one and a half or two inches between and cover slightly; this method is much better than the more common one, of strewing them carelessly in drills or furrows, and in the end saves labor. The most of them will throw up seed tops which must be cut or pinched off, close down to the leaves as soon as the *bulge shows distinctly* and not before, or another will sprout up in its place requiring a second operation, will be less likely to bottom, and eventually have a hard stiff neck; but little labor of hoeing and weeding is required, as the tops will be well up before the weeds get a start—the topping is a wet dirty job—as all will not show the bulge at once the beds must be looked over three or four times, the last about ten days before pulling, when all may be taken off; the crop when marketed is very apt to come in competition with Bermuda onions which makes it less profitable than formerly. A fair produce is about four hundred bushels to the acre.

The onion louse, a small yellow insect, sometimes causes much injury, appearing in great numbers in dry weather when the tops are well grown, eating the outer covering of the leaf. Probably the first notice we have of their presence is the change of color in the top from a glossy to a dull green, which will progress rapidly to brown, especially if the weather is hot, till the top withers without falling. As they are apt to attack setts, seed, and potatoe onions first, it is advisable not to have the seed-beds adjoining or so near that the insects may pass to them when the early crops are harvested. Plaster sown over the beds when the dew is on is believed to be a partial remedy.

At the second hoeing of seed-beeds, carrots may be placed at intervals of 18 inches between hills in every third row of onions, without apparent injury to the onion crop. The planting may be done rapidly in mellow ground by taking a pinch of seed from a cup carried in the left hand, between the thumb and finger of the right, which is slightly pressed in the earth, at the same time allowing a small quantity of seed to escape and cover with the knuckles. One pinch is sufficient for five hills. More care will, of course, be required in the next hoeing and in gathering the onions. The carrots will not require thinning as from three to thirteen will grow very well in a hill when planted at this distance. I have known a crop of 600 bushels onions and 600 bushels carrots grown on the same acre, the past season, planted in this way.

Blight or blast, a withering of the tops as if exposed to scorching heat, first appears as a black mold or smut on the leaves, sometimes in small spots as large as a dime; at others on most of the leaf, and is liable to occur at any stage of growth, as early as April, on sets, at the time the bulbs begin to form on seed-beds, and on the seed stalk when in blossom, where it is most conspicuous, causing immediate decay as far as the smut extends; at first turning to a pale green, then yellow and eventually decay. Whether this smut is the result of disease, excess of moisture in the plant, or external influences, I have not been able to determine, and it would not be noticed here except for the purpose of calling attention to the fact, which appears not to be generally known, that the mold or smut always precedes the withering, and that decay extends no further than the space covered, except the stalk is girdled with it; then of course it will rot off and fall. This may form a link in investigating the subject to its source, and possible remedy which is very desirable.

Recapitulation.—Be sure and have the right kinds—raise your own seed. Work the soil deep. Give plenty of well rotted manure. Plant early. Keep clean. Pull when you think they may possibly grow a little more and always before October, however green. House in dry weather, keep dry, and well aired. Avoid bruising Prevent frequent freezing and thawing, and do not move them except for cause. Above all, and without which all other precautions are of no avail, do not leave too long in the ground, and store dry, if you would not have roots and tops, and consequent rot to contend against.

Matinecock, L. I. D. K. YOUNGS.

SMALL FRUITS IN SOUTH ILLINOIS.

My experience with the grape is briefly this: Have fruited Isabella, Catawba and Concord, and they all rot more or less, except when protected from the *dews*. Either of them, when trained against the side of a building with a projecting roof or on a covered trellis, ripen their fruit well.

Without any protection of this kind I have not as yet seen a vine that would ripen *all* the fruit set, the loss by rot being from one-fourth to three-fourths, and sometimes all. The Catawba mildews some; the Concord very little. We have copious dews here during the entire summer, and to this I attribute the rot. I have noticed in several places here Catawbas and Isabellas grown by persons who knew nothing whatever of pruning, trenching or underdraining, and yet those vines, when allowed to extend under some shed or projecting roof, would ripen plenty of fine large clusters *where sheltered*, sometimes where a part only of the vine was sheltered, the part exposed to the dews would invariably be damaged by rot. The best plan that I can think of for the amateur to grow fine grapes in this region, in a small way, will be to put a cover of boards on his trells 2 feet or more in width. This plan is recommended by Wm. Saunders, in Patent Office Report for 1861.

Doolittle's Blackcap Raspberry.

Have fruited this two seasons, and must say it promises better here than any of the six sorts I have tested.

Brinckle's Orange would be my choice for family use if it did not winter kill, but it is too tender here unless well protected.

The Doolittle is perfectly hardy, a great bearer, and I think will bear transportation well. They are easily dried, and are then worth in Chicago thirty cents per pound.

Strawberries.

The white grub is destroying a large portion of the strawberry plants in this county; growers, however, are not discouraged, but will plant largely next spring. The Wilson is grown here more than all others put together.

Union Co., Ill., Oct. 26, 1863. A. BABCOCK.

☞ Gen. John J. Viele of Eagle Bridge, Rensselaer county, N. Y., died on the 18th, aged 55, of dropsy. He was one of the best known men in the county, a lawyer, politician and speaker, ever since he attained to manhood. His death was unexpected, and causes deep sorrow to a wide circle of friends.

Gen. Viele was formerly an active member of the New York State Agricultural Society, and at one time a Vice President of the Society.

DENT CORN FOR THE NORTH.

MESSRS. TUCKER—In the Co. GENT. for Nov. 5, W. J. P. of Salisbury, Ct., inquires why Ohio "Dent" corn may not be as successfully cultivated in New-York as in Ohio?

I will not undertake to say positively why it cannot be done, but will give a brief statement of facts from which W. J. P. may *infer* that it would be unprofitable, to say the least.

In classifying corn into two classes, viz., "flint," or hard, and "soft," the Dent corn is to be regarded as a soft corn. It is a generally conceded opinion, if not a well established fact, that all flint corns have ripened better farther north than soft corns have—hence the "Canada flint," "Yankee," or Connecticut flint ripen well in Northern Ohio, in counties where the Dent will not ripen at all. The Dent corn has been tried in all of the eighty-eight counties in Ohio, but does not come to perfection and ripen well in more than thirty-four or thirty-five counties, and these are all south of the national road. In Northern and Northwestern Ohio, the Dent does not succeed any better than the ordinary corn does at Marquette—that is, it grows finely and forms fine ears, but does *not* ripen. The Dent requires to be planted early, and requires the longest season of any corn grown in the State. If then it ripens with difficulty in lat. 40 deg. N., I do not think it would do to try it in 42 or 43 deg., other things being equal. JNO. H. KLIPPART.

State Agricultural Rooms, Columbus, O., Nov. 7.

A CHEAP GATE.

MESSRS. L. TUCKER & SON—Among your gate plans let mine (not originally but by adoption,) have a place. Its perfect simplicity, cheapness and humility even will spoil it for some, but possibly not for others. Perhaps it is not worthy the name of gate at all, and yet I know several that have stood in gateways here many years and done good service, in exposed places, with the least outlay of any gates I ever knew. Although on the score of looks they would seem to belong only to board fences, they might be used in nearly all fences. These gates are merely two sliding panels of 14 feet long, of the same pattern as fence, only the boards are narrow to make the gates lighter. Each panel slides on two pins—rollers of course were nicer—and in the middle of the roadway is a post to brace the inside and foot of uprights, where they shut together. The sole fastening is a hook on one and a staple on the other. The only trouble we ever had was from careless teamsters, who would not open wide enough so as to pass through, without running against and breaking them down. The many advantages I need not enumerate. F. K. PHOENIX.

Bloomington Nursery, Ill.

Dent Corn Grown in Massachusetts.

The Ohio Dent corn can be successfully grown in Connecticut, and should infer that New York would be as favorable, when the season is of sufficient length for it to mature. It is two weeks later than early Northern varieties. The writer has raised that kind exclusively the past few years, finding his account in a greater yield than any other variety. Good soil and cultivation are all that is requisite for a large crop.

Seed brought from Ohio to Massachusetts, has this season arrived at a good degree of perfection. J. H. D.

Chicopee Falls, Mass.

HOW TO MAKE A FOOT-MUFF.

Those who take long rides in winter, are often obliged to resort to artificial means to keep their feet warm—hence hot bricks, heated blocks of wood and jugs filled with hot water are variously used. The foot-muff is a great improvement on all these. It may be made in different ways, one of the cheapest and most simple of which is as follows: Let the tinman make a square box, about one foot square and two inches thick, so as to hold water. A screw, turned by a button, is inserted into one of the narrow sides—the screw-hole should be large enough to admit a funnel. The box should be perfectly water-tight, the screw-hole being the only place for the admission and egress of the water. If a suitable screw cannot be procured, solder in a short tin tube about an inch long to receive a cork, which is to be tightly pressed in. This box when filled with hot water, which may be done in a few seconds, will retain heat a long time; but its efficiency may be greatly increased by encasing it with the muff. The box itself may be first covered with a piece of coarse carpeting, and then a sheep skin, tanned with the wool on, sewed on the upper large flat side of the box, somewhat in the form of a broad shoe, with the wool inwards, and large enough to receive both feet. This essentially completes the foot-muff. The more expensive ones are covered with furs, instead of sheep skin; and if the skin extends around the whole box the heat of the water will be retained a longer time. A well made muff of this kind, filled with hot water and placed in the bottom of a sleigh, will continue warm for half a day.

Striped Yellow Beetle Destructive to Orchards.

In passing through my orchard, I frequently noticed many nice grafts laying on the ground, badly eaten by this bug, described by ASA FITCH, M. D., in his work on Entomology, No. 9 of your ANNUAL REGISTER, as the Cucumber Bug or Striped Yellow Beetle, *Galeruca vittata*, *Fabriicus*—more familiarly known to most farmers as the Striped Pumpkin Bug.

When I found many on an apple I smashed them with my foot, passed on, thinking the apple had fallen, and the skin became bruised or cracked, and the bugs were there to suck the juice. When I picked my apples, (I pick all by hand,) I found a number on nearly every tree, more or less eaten by the bug. I at once made up my mind that they were not bruised by falling, and found they would eat through the skin of sound apples.

They have also been very destructive to the vining crop this season, more so than common. I kill them on vines with thumb and finger, or by the use of a cloth. On fruit trees it is too difficult a job. Have any of our agricultural men noticed anything of the kind on fruit before? If so, have they found any way to destroy them?

Cape Vincent, N. Y. E. C. KELSEY.

A GRAPE TRELLIS.

I have a grape trellis that I like better than any I have seen a description of. It is substantial, does not get out of place, and is rustic in appearance. It is made of five or six inch cedar posts, eight feet long, set six feet apart, with spruce poles fifteen or sixteen feet long, nailed on to the posts a foot apart, running the whole length. The posts cost eight and ten cents each, and the poles three dollars a hundred here. I have used this kind of trellis for a few years past, and like it better than wire. Laths can be nailed across the poles perpendicularly, to tie the growing shoots, if any one should wish, although I do not use them.—*Horticulturist.*

Wisely and slow; they stumble that run fast.

WARD CASES.

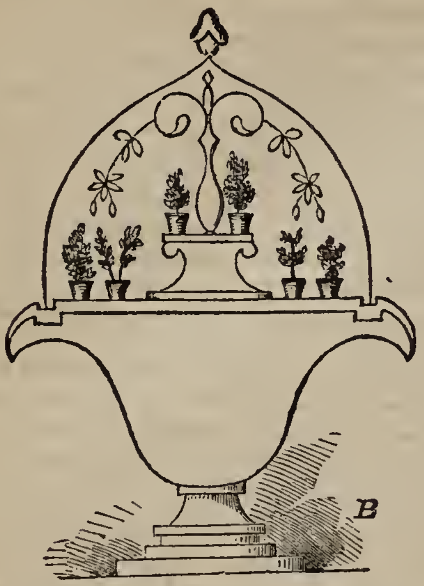


Fig. 1.

Those who have attempted to cultivate green-house plants in rooms, have met with two serious drawbacks. One is the liability to become coated with dust, and the other is the dryness of the air, which is greatly increased by stove heat. For these reasons there are but few plants that will endure for a long time in common living rooms. To obviate these difficulties, the Ward case has been constructed. It consists essentially in covering the plants with glass. This protects them from dust, and by confining the moisture which is constantly exhaled by the leaves, gives them a humid atmosphere. It also assists materially in equalizing the temperature, and shielding from the effects of the sudden changes which may occur in the room. For these reasons, the care of plants in these cases, is much diminished.

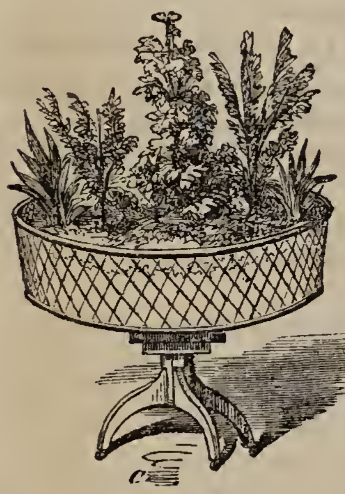


Fig. 2.

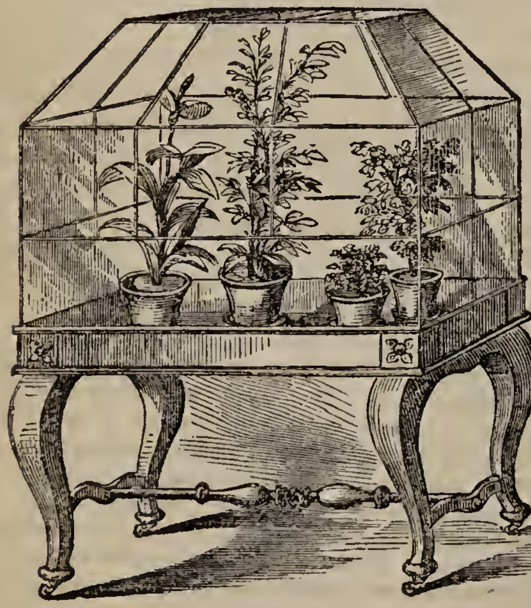


Fig. 3.

Fig 1 represents the section of a small and simple case—made by covering a cast-iron vase of plants with a large bell glass. Fig 2 is a cast-iron basket of plants, without the glass cover. Fig. 3 is the common Ward Case, attached to a table, and made about three feet long and two feet wide. The glass is nearly two feet high, besides the pyramidal cap.

A simpler and cheaper form of construction is shown in fig. 4, which is made of wood, and covered with window sash. If well constructed and neatly kept, it will have a very ornamental appearance. When kept in a room subject to occasional cold below freezing, the proper temperature may be maintained by the following contrivance. Let the pots stand on an iron or copper tray, (the pots being supported, if heavy, by iron bars,) beneath which is soldered a convex round piece of sheet copper, so as to form a flat boiler beneath the tray. A tube through the tray above admits filling the boiler and allows the escape of the steam; a small tube and cock below allows the water to be drawn off. A lamp placed under the boiler, heats the water and keeps the plants sufficiently warm.—*Tucker's Illustrated Annual Register.*

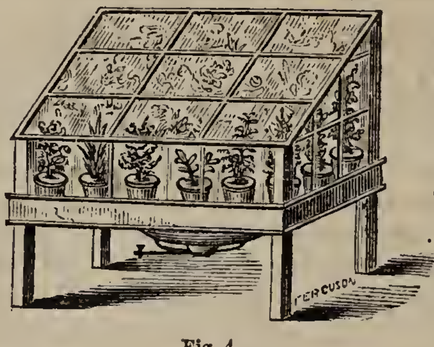
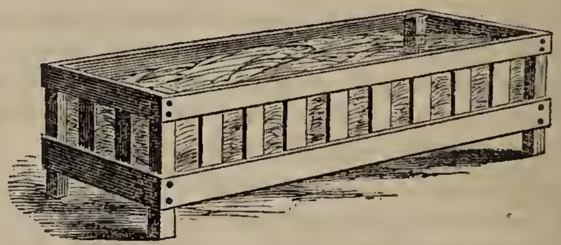


Fig. 4.

◆

SHEEP RACKS.

All good farmers are aware that nothing saves fodder more effectually than good feeding racks. A poor rack is better than none at all, but it is desirable, of course, to have the best. One of the simplest and cheapest sheep racks is shown in the accompanying figure. The corner posts are about three feet high, and are made of 3 by 3 inch scantling, one piece twelve feet long, making the floor. Inch boards are nailed on these posts, as represented in the figure, the top board being five or six inches wide, the bottom one about ten; the length of the rack may be about twelve feet, width two feet. On the horizontal boards are nailed shorter vertical strips, each five or six inches wide, and leaving spaces six inches wide, through which the sheep thrust their heads in eating. Boards are laid in the bottom on cross pieces, which connect the lower edges of the lower horizontal side board. These may be narrow strips with open spaces between them. The rack is now complete, hay being thrown in at the top.



The lumber required for this rack—one piece of 3 by 3 scantling twelve feet long; two inch boards, ten inches wide and twelve feet long, two five inches wide and twelve feet long, four end boards, five and ten inches wide respectively, and twenty-five feet of slats; fifteen feet of bottom boards complete the materials—the whole of these would be about ninety feet, and would cost seventy-five cents to a dollar and a half in different localities. Any farmer of fair ingenuity would make one in half a day—costing not to exceed two dollars for the whole—and paying for itself every month while in use, in the amount saved.

Influence of Agricultural Journals.

Upon the last page of the present Number, will be found the Terms and Inducements offered to Agents of the Country Gentleman and The Cultivator for 1864. It will be seen that they are more liberal and comprehensive than we have before presented for a number of years.

We are led to extend these offers solely because the times seem to us favorable for the enlargement of our subscription lists, and because we think we may fairly depend upon the earnest exertions of our friends to accomplish that result. To such exertions we must look for the means of meeting the constantly increasing expenditures involved, not only in the cost of the paper we use, but in every other direction in which outlay is required—from the setting of the type and the mailing of the papers, to the editorial labor bestowed, the engravings made, and the contributions secured. As already stated, the reading matter of our papers will be on new type, and we hope, in other respects, to add to the value and interest of the various Departments to which they are devoted.

A few words as to the origin and objects of *Club prices*, may not be out of place. It was designed, when it first became customary to offer them, that this reduction, when a large number of papers is subscribed for, should go wholly to the profit of the Agent who spends his time in making up the club, and who pays postages, &c., out of his own pocket. But in the competition between different publications, and out of the public spirited efforts of those who did not care for any remuneration of the kind, the custom has arisen of giving this benefit largely or wholly to the individual subscribers themselves. We do not think this is altogether fair; the agent should charge a slight advance upon the publisher's price, which will at least pay his postages, and subscribers, who receive their papers at a reduced cost, owing to his efforts, should co-operate with him more readily and earnestly, in enlarging the list.

How it is with other publishers we do not undertake to say, but the club price of the Country Gentleman is insufficient to meet the actual cost to us of the papers sent out at that rate. If we are then asked why these terms are continued, we reply that their sole object is the *extension of the list.* As the subscription is enlarged, and more become acquainted with the practical value of such a journal, we obtain permanent readers who will continue on our lists whether clubs are renewed or not, and who will be of so much additional assistance in reaching a still larger circle of readers from year to year. Now and then a friend writes to ask permission to send two or three subscribers at the lowest club price, and says, "if you can afford ten copies at a dollar and a half each, why not three or five?" The answer is, because so small a number is not a sufficient inducement to us, in its promise for the future, to send the papers for a year, without any profit, if not at an actual loss. And this will explain why we refuse to comply with directions sometimes, (but we are pleased to say, now very rarely) received, accompanied by the club rate for a single copy, either to "send the paper for the full time or return the money." Such remittances are credited for the period they will cover, at our published rates, and for that only.

—— Having thus invited the reader to look for a moment at the state of the case, from the publisher's point of view, let us remark very briefly some of the ways in which he is himself benefitted by the enlargement of our subscription list.

In our last number we asked a comparison between the intelligence and enterprise, taking them as a class, of those who read an Agricultural paper, and those who do not. In a locality in which a journal like this enjoys a liberal circulation, the results accomplished in time are very great. The merits of improved stock perhaps are first canvassed, and then new breeds are brought in; more attention is paid to fruits and flowers; new implements come into use, better buildings spring up, and, with increased attention to manures, there arises a better system of farm management throughout. Now, in none of these respects, nor in any other, can a man single handed, or two or three persons in a wide neighborhood, work one-half as effectively in the cause of improvement, as they can when those with whom they are constantly brought into contact are all more or less deeply interested in the same objects—where they read the same periodical—understand the end sought and are willing to do their share in bringing it about. How many of the agricultural societies now in operation, owe their existence wholly to the attention attracted to the subject through an Agricultural paper; and there is no way in which the success of such a society can be more surely promoted—we say this, not from our own observation only, but on the testimony of many experienced Society officers—than by arousing the interest of as large a part of the members as possible in agricultural reading.

Now a farmer who is striving to excel likes to meet his neighbors in competition, not only to compare his own results with theirs and exceed them if he can, but also to learn from them, when they are accomplishing more than he. Hence he is not only directly interested in arousing the same ambition in others, but, more than this, there is not a department in Agricultural improvement in which he is not advantaged by enlisting in it those around him. Thus, if he would better his live stock, he desires that others should have the same object in view, that an interchange of blood may be conveniently attained by both, or that a market may be made for what he breeds. And it often happens, or might happen, that several could combine to procure either valuable stock or expensive implements, or seed grain in quantity from a distance, or draining tile, or fruit trees, (or almost anything else,) at a reduced cost to each by such a combination. Nothing of this kind however, can be effected when there are but one or two in a township who know, or care to know, anything about what constitutes improvement.

Is it to be supposed that a number of good farmers, who are bringing their land into the highest state of cultivation attainable, do not thus affect the agricultural reputation of their whole locality and the consequent value of every acre of its land, when brought into the market? On the other hand, what is there that tends to render any district more forbidding to intending purchasers, than to find it characterized by evidences of shiftlessness and decay, and to be told that even if the land was naturally good, it is now pretty thoroughly "worn out." Those who know the time and expense and patience necessary to bring up such land, will not need the assurances of others that the reputation of such a character is most damaging.

It is very possible that when an Agricultural writer visits his farming readers, a pardonable desire to exhibit only that which is best worth seeing, may lead to his having a somewhat rose-colored view of the state of improvement; but, with all due allowance on this score, we cannot so far mistrust the evidence of our own observation as to suppose that all this mass of facts, of experience, of practical and scientific truth, which we are sending out to thousands of readers from week to week throughout the year, can fail altogether of its object—that it is not doing a work which will be more fully appreciated at some future day, when the history of Agricultural improvement in America comes to be written—when the obstacles it has had to encounter are understood, and when the triumphs it is now working out shall have borne the full fruitage of which they are capable. One great need, at present, is the more general imitation of the examples which *some* good farmers in every State and County and township are setting—a more general knowledge of the real capacities of our soils, a more liberal and business-like employment of the farmer's capital, the collection of a still wider range of experiences and larger store of facts. To these ends, we urge upon our readers that they should extend, as they may be able, the circulation of this Journal; that they should contribute for it what they are daily learning in the field or farmstead, and that they should recognize, in both respects, the identity of its interests with their own.

SEEDING IN THE AUTUMN.

Messrs. Editors—As your correspondent C. H. H., wishes your opinion, as well as some others who have had experience in re-seeding wet lands to grass in the fall, I will give him the benefit of my experience in this matter.

On those pieces of land which I have plowed and seeded in the fall, I have used timothy seed exclusively, yet I do not see why red top seed could not be used in the same way with as good success.

The land which I have treated in the way mentioned, is a piece of level land which is too wet to plow and cultivate either in the spring or fall, but is generally dry enough to plow the latter part of summer. In several different years, in the latter part of August and fore part of September, I have plowed and seeded down pieces of this land with good success. I plow the ground in narrow lands, plowing only on the sides of the lands. This leaves the land in narrow ridges with open furrows between them, and after the land is plowed I run the plow through these furrows to deepen them, after which the loose soil in them is thrown out with a shovel and hoe, and spread on the land each side. This leaves a ditch about a foot deep for the purpose of draining off the surface water. After the land is plowed I cart on and spread a good dressing of manure, and have it well harrowed in; then sow the grass seed and cover it lightly. I use my wire tooth horse-rake for this purpose. After this I go over the land with a hoe, to smooth any places that the harrow or rake has left. With land treated in this way, I have never failed of having the seed catch well and make a good growth before winter, and produce a good crop of hay the next season. The first crop is generally uneven in its growth, and the quality like rowen. The second year the grass gets its full growth, and for several subsequent years the land will produce heavy crops of grass. On the land which I have seeded in the fall, there will generally be some spots on which the grass will winter-kill. On these places I sow more grass seed in the spring following, and it generally grows without any covering.

I think that this method is decidedly the best way of treating all meadow lands which are too wet to cultivate, and the surface of which is smooth enough so that the sod can be well turned over.

For several years past I have plowed and seeded down some of my mowing land in the spring. My plan is to take a piece of land that needs renovating, and plow it with a side-hill plow; commence on one side of the field and plow it backward and forward till it is finished. This way of plowing leaves but one ridge, and one open furrow on the piece after it is plowed. If the first furrow that is turned is taken off and carried and put into the last one, it leaves the land nearly as smooth as it was before it was plowed. A dressing of manure is then spread on the land and well worked in with the cultivator and harrow, after which it is sown with spring grain and seeded down. In this way I have never failed of getting a a good crop of grain, and a good catch of grass, and for several years afterward good crops of grass. I have also plowed other pieces of grass land in the spring, put manure on after plowing, cultivate it in, and plant it with potatoes. The next spring put on a little more manure and work it in with a cultivator, so as not to disturb the turf below, and seed down again with a crop of spring grain. The success with this mode of treatment has been nearly the same as that of seeding down the first season. Where much land needs renovating, it can be done much quicker in these ways, than any other I have tried, and the crops of grass that follow are as good as where the land has been cultivated longer. C. T. Alvord.

Wilmington, Vt., August, 1863.

THE POLLED CATTLE OF SCOTLAND.

Messrs. Editors—I notice your article on the Polled cattle of Angus and Galloway. These cattle have always been favorites with me from boyhood, and if I were now on a stock farm, I would breed them in preference to any other cattle. I have three reasons for this decision.

1st. They can be selected of almost as perfect forms (though not so showy) as the Short-Horn, Hereford or Devon.

2d. They would be equally hardy. Some will answer more so. Perhaps they are, in their present state; but when we come to breed them with care, "drawing them fine," as we say, I doubt whether they would be hardier or live on closer pastures than the Devon.

3d. They are without horns, which I consider a great advantage to the breeder, as it lessens accidents, and is more economical, especially in transporting them a long distance to market, as they require less room in the cars, and are more easily handled.

As your junior associate, Mr. Luther H. Tucker, has been in Great Britain some eighteen years more recently than myself, I should be glad to learn from him how the Galloways have lately been improved. I suppose chiefly by a better and more careful selection of the animals bred from. But I recollect, when in England, being struck with admiration of the fine forms of a lot of polled black cattle I saw there. I asked their owner, a large grazier, how it was. He informed me that they had a *stolen cross* of Short-Horn blood in them, and called my attention to nubs of horns occasionally on them, some of which hung to the head by short, tough ligaments, the result, he said, of a cross with a horned bull.

In the vicinity of this city (New-York) I frequently meet with Polled cows, white, roan, red and white, and occasionally wholly red. The colors are as bright and pure as in the Short-Horn, and now and then I could select a specimen almost as perfect in form as the average of this distinguished breed of cattle. As a general rule they are great milkers, good handlers, and fatten kindly when dried off.

If I were on a grazing farm, I would pick up a select lot of these cows, get a very fine, compact Short-Horn bull, and cross him on them. When horns began to appear on the calves I would burn the tips with a red hot iron, and thus stop their growth. By careful selection of the progeny I would get a herd in a few years which for the dairy and butcher would be scarcely inferior to the Short-Horns—their colors would be as beautiful and their symmetry approaching them in perfection. The size of these animals could be bred to suit their pastures; they might be medium like the Devons, or large like the Herefords and Short-Horns. Thus cheaply would another valuable subvariety be added to our fine herds of cattle, whose utility and economy of production could scarcely be surpassed. A. B. Allen. *New-York*, *Oct.* 31, 1863.

[As to the improvement of the polled black cattle, one hears it alleged that an occasional intermixture of Short-Horn blood is now made to perfect the symmetry and add to the precocity of the former; but we believe the best breeders do not admit this—at least the writer has met with no one who would—claiming that improvement has been accomplished by judicious selections and careful breeding without going outside of the breed itself. If we are wrong in this statement, and certainly none of the black polled cattle we saw in Scotland in 1859, showed signs that were perceptible in color, or otherwise, of a Short-Horn admixture—our friends of the *North British Agriculturist* will perhaps be kind enough to correct us. We noted in the best Angus and Galloways, aside from perfection of form, a softness of skin and mellow touch, combined at the same time with such thickness of skin and hair (the latter silky and as soft as the former,) as would seem, whether correctly or not, to favor the idea of their hardiness, at least with good treatment, in almost any climate. One experiences as much pleasure in feeling them as he would in finding his thickest winter boots as soft and flexible as a kid glove. The red and parti-colored polled cattle alluded to by our correspondent, we may suggest, are possibly descended from Suffolk (or Norfolk, as frequently termed,) polled cattle, which have perhaps occasionally found their way as milch cows or otherwise to this country. This is a breed possessing many merits, particularly for the dairy, and his description would apply to them (or crosses from them) quite nearly. The Angus and Galloway cattle are pretty sure, we fancy, to carry more or less black into the color of their descendants.]

FARM ACCOUNTS.

I have read with interest some of the articles in the Co. Gent. on the subject of Farm Accounts, believing that it is of essential importance to a proper understanding of the operations of the farm, that correct and explicit accounts be kept by every Farmer. But I have not yet seen any detailed plan laid down by which such accounts can be simply and easily kept, so as to be embraced by farmers generally.

It is well said that the common excuse for the neglect of this important branch is comprised in the phrase "I haven't time." And when we reflect on the manner in which the accounts of merchants, manufacturers, and other extensive dealers and operators are conducted, with their waste-books, journals, ledgers, bill books, cash books, &c., &c., requiring sometimes the labors of several clerks, a contemplation of these complicated and extensive accounts, (assuredly required by the nature of the business to which they are applied,) together with perhaps a recollection of having endeavored to wade through some perplexing system of book-keeping at school, has no doubt discouraged many a farmer from attempting to keep such accounts as would enable him to ascertain the profit or loss of his several crops, and have an understanding of his whole farming operations, inducing him to pursue a blind course on these important points—not knowing whether he is making or sinking money.

I have no doubt every farmer keeps some kind of accounts as a record of what is owing to him, if not of what he owes. But that is not sufficient. He should, as has already been suggested in your valuable paper, keep an account with every field, or at least with every crop, and every kind of stock which he keeps on the farm.

What is wanted then, is a short and simple method of keeping such accounts, so that the farmer will have time to do it, without intruding on his customary affairs. If he undertakes to keep many books—day-book, journal, ledger, &c.,—he may be particular in making his original entries; but some occurrence will take place, or some urgent matter must be attended to, that will hinder the journalizing or posting, and his books will fall a month, six months, yes, a year behind. Every week that passes over increases the labor, until at length it will appear herculean, and he will become discouraged, and give up as a hopeless task "keeping farm accounts."

As an essential part of my plan, I would discard all books but a ledger, except a small memorandum book, with a pencil in it, to be carried in the pocket—whereby any transaction occurring when away from the house can be put down on the spot. Some have suggested a day book for the permanent accounts, but I say it should be a ledger. It may be of heavy foolscap, bound long folio, the pages printed on, with an index complete. Have it neatly headed with all the accounts desired to be kept, and enter each account with its proper page under the respective letters in the index. Then every evening post each entry from the memorandum book direct into its proper place in the ledger, and the work is done. It would be well to look over the memorandum book at the end of each week, to see that nothing has been omitted.

The accounts should be kept by double entry, because it saves much trouble in balancing the book. This can be easily done by opening a cash account in the ledger, which should be balanced at the end of every month, and the balance compared with the cash on hand, which will prove the correctness of the account.

The farmer generally has sons, who if encouraged to take a part, would be efficient helpers in keeping these accounts. Even a boy of ten or twelve years could post the accounts into the ledger, his father giving out the items from his memorandum book, and superintending the operation; which would soon become a familiar and pleasant exercise for the youth. He would thus not only acquire a knowledge of the commercial business of the farm, but he would become doubly interested in its agricultural operations and experiments. Seeing the accounts with the various crops growing in the book, while the crops themselves are growing on the farm, he would be stimulated to persevere by the deepening interest he would feel in the result.

The account with each crop should be footed up, and the balance carried to profit and loss, as soon as the crop is sold, and all the accounts in the ledger should be balanced at the end of the year, without fail—in order that the farmer may be enabled to ascertain the true state of his affairs, the great object of keeping "farm accounts," and a consummation worth double the trouble it will require in the method proposed.

The family expenses, and everything in the nature of an account should have a place in the ledger. It is not doing justice to the fields or the crops to take out first the produce consumed by the family, and credit only the remainder to the particular crop.

If the farmer wishes to keep a record of the weather, or of the time of plowing, seeding and harvesting, or any other occurrences, it must be kept in a separate book in the form of a diary, being careful to head each page with the day, month and year for the convenience of ready reference. J. *Jefferson Co., Ohio.*

☞ The third annual meeting of the Indiana Pomological Society, will convene in Indianapolis on Tuesday, January 5th, 1864, and continue in session four days. A general invitation is extended to all persons who are in any way interested in fruit culture. It is hoped that all who can possibly do so, will bring with them samples of fruits and wines. An interesting meeting may be expected, as essays will be read by many of the best fruit-growers of the west, to be followed by discussions on the subjects to which they refer.

Disease among Swine.—In the neighborhood of St. Clair, Franklin Co., Missouri, hogs in apparent good health and condition are dying by scores, some farmers having lost the greater part of their stock. In some places the same affection, or some other fatal disease, seizes fowls, and they droop about for several days, become blind and perish.

CONVERTING STRAW INTO MANURE.

An address on this subject was lately read before the Agricultural Society of Boroughbridge, England, in which the speaker endeavored to furnish a satisfactory answer to the two following questions, namely, what description of stock must be employed on our respective farms to convert the straw into good manure, and at the same time leave the best return for the food consumed and the capital employed? Secondly—what arrangements must be made so as to ensure the good quality of the manure, and to preserve it from waste during preparation?

There is much in the extended replies presented to these questions, which is of as great value here, especially among grain farmers, as in the West Riding of Yorkshire. It is their great object to dispose of their straw to the best advantage, whether as food or litter.

Feeding Qualities of the Different Kinds of Straw.

"By some," says the writer, "it is urged that whatever cereal is most suitable to a soil, there the straw of that cereal will be most valuable as food; by others, that cattle are themselves the best judges, and that therefore that straw which the stock seems to relish most should be retained exclusively for food, and the remainder condemned for litter. Pea haulm, when well harvested, is undoubtedly more nutritious than any other straw, and should therefore be used as food, and is very valuable for ewes at the lambing season. Bean straw is decidedly inferior to any other kind of straw, except the pods, on which animals do well, if allowed to pick them off, and yet a great difference of opinion exists, some persons considering that beanstalks are almost equal to clover-hay; and others think them fit only for litter. There is a great difference of opinion of the feeding value of wheat, barley, or oat straw, and perhaps no very broad or permanent distinction exists. Dr. Voelcker tells us that the composition of straw is materially influenced by the degree of maturity in which the corn is harvested—as for instance, it has been proved by analysis of oat-straw, (which is generally next in value to pea haulm,) that of sugar, gum, and other matters in food, not less than 16 per cent. occurs in green straw, as against 3 per cent. in over-ripe straw, and 10½ per cent. in the fairly ripe sample. It is interesting to learn that hard and dry as straw appears to be, it contains, among other nutritious matters, an appreciable quantity of a nice yellow sweet tasting oil. In a sample of well harvested wheat straw, neither under nor over ripe, there was at the rate of 39 pounds of oil in a ton of straw. The same remark applies to barley straw, which is more suitable for young stock, as it does not contain so much woody fibre, and is consequently easier of digestion. I may here remark that barley chaff, when scalded with boiling linseed is much relished by horses, and I am quite satisfied that the whole of this article should be *thus* used for food."

Dr. Voelcker has remarked that some farmers are as much inclined to underrate the value of straw for feeding as others are to exaggerate it, and while the main anxiety of the first-named class seems to be how to tread into manure all the straw grown on the farm; that of the second is, how to stuff stock with all the straw at their disposal; the creed of the former being that neither little nor much will do their cattle any good, whilst the latter hold that any appropriation of it for litter is an intolerable waste. Whether, however, the feeding value of straw, especially if combined with some concentrated or more readily digestible food, be more or less, its value in the farm-yard is essential—not so much that it is *itself* a manure of any importance, its own fertilizing value being quite insignificant, but as an absorbent of the most valuable portions of the excrements of animals, and as the best fixer of the ammonia which is always generated when excrementitious matters in contact with porous materials enter into active fermentation. So, in feeding, when used alone its value becomes very small, as it does not contain all the material necessary to support the animal in a thriving state; but when associated with food containing flesh-forming matters, it is considered in England to be worth from $7.50 to $10 per ton, (30*s*. to 40*s*. sterling,) as a feeding material.

The Value of Farm-Yard Manure.

This must vary according to the system adopted; "it is certain that a man must not expect the same increase of crops from washed and decayed straw, as his neighbor, whose manure is made under cover, and contains the essence of cake and corn. Dr. Playfair has compared the body of an animal to a furnace—the food is fuel—and the excrements are the ashes, and the gases respired from the mouth are of the same composition as those which fly up the chimney of the furnace. If the food or fuel supplied to an animal be abundant and of rich quality, the manure produced is valuable; but if the food is indifferent, too watery as white turnips, or too woody as straw, or if supplied scantily or insufficiently, the manure is almost valueless, and all the turning and heaping up possible will not render that valuable which was before almost worthless. The manure of a full-grown animal cannot be so much exhausted as that from young growing animals, to which bone and muscle have to be supplied, neither can the manure of working cattle or milch cows be equal to that of fattening animals, even when kept on the same food."

These considerations lead to the conclusion that *fattening animals are producers of the best manure;* "for, to make an animal fat for the butcher at a profit, it must be done as quickly as possible, and in order to accomplish that object, it must be amply supplied with rich, flesh-forming food; and as an animal when almost fat only extracts from the food a small proportion of the nitrogenous matters contained, it follows that the remainder will be ejected from the system, so that the nearer maturity an animal is, the richer will be the manure." It is thus bad economy to send animals to the butcher when only *half fat.*

What Kinds of Food to Use with Straw.

According to a table in the fourth volume of Bath and West of England's Society Journal, the value of different articles of cattle food is placed thus:

Number of Pounds Weight of each Required to Make One Pound of Beef.

Barley	6	Linseed Cake and peas, equal quantities	4½
Oats	7	Clover Hay	12
Beans	8	Swedes	150
Peas	8	Mangolds	150
Rape-cake	6	Carrots	150
Cotton-cake	6		
Linseed-cake	5 or 6		

In deciding what to use, the relative price of these articles of food must be taken into account as well as their nutritive value. The writer says there is no doubt that it is more profitable to associate roots, cake and grain together in the feeding of cattle than to endeavor to feed an animal with an abundance of roots alone; and, as in the experiment of linseed cake and peas, the most profitable results occur, according to the foregoing table; so he thinks the case to be generally, that food of different tendencies should be amalgamated, as is the case here, the oilcake being a relaxative food, while the peas have an opposite tendency.

As to feeding oil-cake, Prof. Voelcker is of opinion that we may fairly expect three-fourths of the nitrogenized matter of oilcake back again in the manure, and perhaps one-half of the money value of rape or the best cotton cake; and Prof. Anderson remarks that a series of experiments appeared to show that of food generally about one third or one-fourth of the money value, and seven-eighths of the valuable matter appears in the dung. "Thus we arrive at the conclusion that to obtain good manure our stock must be amply supplied with good food."

Sheep in Treading Down Straw.

"The Spaniard has a proverb that the sheep treads on the land with a golden hoof. Will it not be well, therefore, to inquire whether the same remark may not apply to sheep treading on the straw which we wish to turn into manure. It is the custom in some parts of Hampshire on heavy lands, to spread the wheat straw (from the thrashing machine) on the land, fold sheep on it, and then plow it in—perhaps the nature of the soil warrants the mode." The writer then described the mode adopted for a number of years on strong land by Mr. Ruston. "He had between 600 and 700 sheep and lambs in his ordinary fold-yards, —being allowed as many mangold as their bodies would bear, to which is added cake or corn, along with a sufficient supply of dry food in the shape of chaff—hay and straw—about 4 yards square being allowed for each sheep —the yards being properly drained and littered every day with a slight covering of straw, and twice a day in showery wet weather; thus, if the sheep be free from lameness when placed in the yards, and the litterings carefully attended to, there need not be much fear of foot rot—their feet should be pared at least every three weeks. Mr. Ruston considers that six lambs will tread down as much straw as a £12 or £14 bullock, and calculates that instead of one hundred bullocks leaving £150, after paying for the artificial food, 600 lambs did leave £390 for the same quantity of food, the sheep thus leaving a profit of £240 in excess of the bullocks. The manure may be made in folds in any field by means of hurdles, and thus the carting of the manure be saved." Mr. R. thinks lambs pay better than sheep, and either of them better than bullocks; previously to the lambs being placed in yards they should have been on rape, so as to strengthen them and render them better able to bear the relaxing properties of the mangolds.

It is the opinion of Mr. Lawes that there could be no material difference in value in the manure obtained from sheep and bullocks eating equal quantities and qualities of feed—the quality of manure being dependent upon the food and not upon the animal; but, as sheep manure, when kept in a heap, decomposes rapidly, it should not be spread in large quantities on light land for cereals, as it is very quick in its action, and causes them to run too much to straw.

Value of Shelter.

The speaker stated that according to experimental trial, it required 150 lbs. of Swede turnips to add a pound weight to sheep exposed to all weathers, while 100 lbs. with shelter gave the same result.

"The manure is likewise impaired by want of shelter, for, as the animal is a species of furnace in which food is consumed, it follows that the more rapidly the animal heat is carried off, the greater the consumption of heat-producing food to maintain it, and thus the ashes must necessarily be deprived of material value as manure. When other yards are used, the floor should be paved or otherwise rendered impervious to wet, the soil having been previously excavated to the depth of four or five feet, and drains so arranged as to carry off superfluous moisture into a tank; the sheds should be wide, and, along with all other buildings, should be spouted, that no water except that which falls on the exposed surface of the manure, be allowed to enter the yards. I think the best style of building for feeding in, is the loose box or covered homestead, which may be arranged in yards, or in a series of loose boxes, (as described by Mr. Hayes at the Pembroke Farmer's Club,) twelve feet or so square for a pair of oxen loose, or a larger number of smaller ones; the floor is sunk three or four feet below the feeding alley, and is asphalted; twelve inches of soil is placed upon this, the animals are littered with 20 lbs. of straw each per day, and this is not removed until the box is full. By this system the comfort of the animal is secured, and the manure will not have received a drop of rain water. The manure thus made must necessarily be superior to that made by stall fed cattle, which is thrown on a heap at the feeding-house door, or into a court under young stock, where it would be plentifully washed by the rains and weakened thereby. By means of the covered homestead, a great quantity of straw would be available for fodder which would otherwise be needed as litter, and thus a greater number of cattle might be wintered advantageously, and the manure will be at once fit for application to the land."

Turning and Handling Manure.

He thought the throwing of manure into a heap, before its application to the land, important as intermixing it more completely and destroying the seeds of weeds it might contain. But "it will not supply fresh constituents; it may diminish the water contained, decay the vegetable fibre, condense and render manure more portable and adapted to the organs of the plants, but can add nothing which does not already exist. When manure is thrown into a heap it should not be less than 5½ or 6 feet thick, and should be covered with road scrapings or soil, or the ammonia should be fixed by the use of suphuric acid, gypsum or sulphate of iron, diluted with water, and sprinkled over the heap. It has been remarked that one can at first sight, judge of the industry and degree of intelligence of a farmer by the care which he bestows on his manure heap, which should be so placed that the liquid which escapes should not be allowed to flow into the nearest ditch and be thus wasted. It has been computed that on some farms, where due care is not taken of the liquid drainage from the manure heaps, the loss is equal to three cwt. of Peruvian guano for every 25 loads of manure made on the farm."

Treatment of Manure in the Heap.

If the farm is situated in a district with the average rainfall, Prof. Tanner remarks that when the fermentation of a manure heap is proceeding rapidly, an occasional supply of water, or what will be better, liquid manure, should be pumped or thrown upon the heap, not sufficient to cause drainage, but still to soak into the center of the heap; the sinking of an iron bar into the center of the heap will aid the passage of the water, and at the same time assure you whether additional moisture is needed or not. It is necessary for the more complete decomposition of the dung to turn it so as to admit air; then be especially guarded and take care that sufficient moisture is also added at such intervals as may be necessary. Remember that by the admission of air you are stimulating a slow fire, which, if allowed to proceed unchecked by the presence of moisture, will dissipate into the air much valuable fertilizing matter, but if judiciously controlled, you will be able to change the condition of your manure, while at the same time you will secure all its fertilizing matters.

The following were the conclusions reached: That in order to convert straw profitably into manure, the food which is supplied to stock should be such as is suited to their wants; that the quality of manure depends greatly on the quality of food supplied to animals; and thirdly that the covered homestead best affords comfort, economises food, and prevents injury to the manure by drouth or excessive moisture. It may be well, he added, to bear in mind the remark of Mr. Bakewell of Dishley, which is as true now, as it was when uttered. That the road for a farmer to get rich is to breed the best stock of whatever kind, as the best consume no more food than the worst. Good farming, said that celebrated man, is to get a dinner for your appetite, while bad farming is only getting an appetite for your dinner.

THE CULTIVATOR.

ALBANY, N. Y., DECEMBER, 1863.

☞ Allusion has been sometimes made in these columns to the experimental Wheat field of fourteen acres on the farm of J. B. Lawes, Esq., of Rothamsted, England, on which this grain has now been grown every year for a series of *twenty consecutive seasons*. In an interesting letter, under date of Oct. 10th, to the London Times, Mr. L. presents the following statement as to the treatment adopted and the crops obtained:

During the whole of this period one portion of the land has been left entirely unmanured, another has received 14 tons of farmyard manure annually, and the remainder has been divided into numerous plots, which have respectively been manured with different artificial combinations, some calculated to yield moderate crops, and others the heaviest produce which the characters of the soil and seasons will admit of. With some exceptions the same description of manure is applied year after year on the same plot, so that the variation in the produce from one year to another is mainly due to the characters of the seasons; and experience has shown that the produce of this field affords a tolerably correct indication of the general character of the wheat crop over a pretty wide area.

The following is a statement of the amounts of produce obtained without manure, and by farmyard manure, in 1863, compared with the average of the preceding ten years under the same conditions:

	Bushels of Wheat per Acre.	
	Harvest, 1863.	Average of ten years, 1853-1862.
Unmanured every year, ...	17¼	15½
Farmyard manure every year,........	44	35¼

Thus, even the unmanured land has given rather more produce in the favorable season of the twentieth year than the average of the preceding ten years; but the increase due to season was far greater where the farmyard manure was employed. It was even greater still in many of the cases where artificial manures were applied, as the following results (which include those of all the plots where the yield of the present season exceeded 50 bushels per acre, will show:

Bushels per Acre.	
Harvest, 1863.	Average of 10 years, 1853–1862.
53½	35½
54	35¾
56½	37
55	37½
55½	33¼
54¾	34¼
53¼	34½
53¼	33¼
53¼	34
54	33¾
53½	34¼
56½	37½
55	38

It is seen that in almost every one of these cases the produce of 1863 was one-half more than the average of the preceding ten years, with the same description of manure. The quality, as indicated by the weight per bushel, was also considerably above the average. It should be observed, too, that on only one of these plots has there ever before, during the whole course of experiments, been obtained as much as 50 bushels per acre, and on it only twice—viz., in 1854 and 1857.

I may add that in an adjoining field, not treated experimentally, but under the ordinary management of the farm, the yield of wheat this year (after clover) is more than 63 bushels per acre.

Mr. Lawes remarks, in conclusion: "These results may, I think, be taken as fully confirmatory of the generally expressed opinion, that the wheat crop of 1863 is one of the largest that has been grown for many years, and also of superior quality. Those who fear that our soils are becoming rapidly exhausted may, perhaps, derive some comfort from the fact that a field of ordinary wheat land has grown twenty crops in succession, the twentieth crop, even without manure, being heavier than the average of the ten preceding years, and that obtained by various artificial manures being considerably heavier than in any preceding season of the series."

☞ Prof. Ebenezer Emmons, M. D., late of this city, died on the 1st October, at Brunswick, N. C., in the 65th year of his age. Prof. E. was one of the leading scientific men to whom the Geological Survey of this State was committed; and while there may be differences of opinion as to the manner in which the work was conducted, and while some of the views entertained by Professor E. have met with warm opposition, he undoubtedly possessed large scientific attainments, an intellect naturally of great scope and a high order, and controversial faculties of more than usual strength. He had long held professorships in the Albany Medical College and in Williams College, Williamstown, Mass.

☞ Among the Implements exhibited at the late State Fair at Utica, the Harrow made by Mr. John E. Morgan of Deerfield, Oneida Co., received the first premium in its class, but was overlooked in the notice of these implements in the Country Gentleman. We believe it to be well worthy the prize it received, and are pleased to know that the inventor and manufacturer is realizing a handsome sum for the rights as well as for the harrows—which indeed is his excuse for not advertising, that he is operating already to the full extent of his present facilities.

☞ It is stated that Mr. Thomas S. Lang of North Vassalboro, Maine, well known as a stock-breeder, has disposed of his horse "Cloudman" to Mr. Bonner of the New-York Ledger, "for the snug little sum of $20,000." It is likewise asserted that this horse lately made a single half-mile heat in 1:10, and that his mile scores "very far down among the twenties."

☞ The admirable little Microscope advertised in this paper for some time past by Mr. Henry Craig, New-York, will be among the favorite gifts the coming Holidays. See new Advertisement this week.

Cheese Factories.—The Lowville Journal (Lewis Co., N. Y.) says that the Cheese Factory in that place have sold their cheese at 14 cents per pound. The whole number of cheese made up to Oct. 9th, was 1,123—will average about 150 lbs. each. Deducting 148 cheese sold in the spring, the amount sold at this time is about 145,000 lbs. bringing about $20,000.

Stock Sales.—We are requested to publish that Mr. John S. Goe of Brownsville, Fayette Co., Pa., has within a year past sold from his fine stock as follows:

2 Cashmere goats, D. H. Ryall.
5 Messenger colts. do.
1 Short-Horned bull, do.
2 Short-Horned cows, do.
3 Short-Horned Calves. do.
119 Merino ewes and 2 bucks, do.
6 Merino bucks to S. Brown.
2 Merino bucks do.
9 Merino bucks, J. McCrary.
2 Merino bucks, A. Boyd.
1 Merino buck, L. Laneheart.
2 Merino bucks, R. Elliott.
2 Merino bucks, E. H. Palmer.
1 Merino buck, S. Sands.
5 Merino bucks, H. Brachrill.
1 Durham bull, J. G. Strean.
2 Cashmere goats, Van Amberg & Co.
1 Cashmere goat, Dr. T. F. Robinson.
1 Cashmere goat, J. Jackson.
1 Stallion to Isaac Bailey, and six brood mares to various persons.

Mr. John McHarg of Bethlehem sends us a barrel of Northern Spy apples, which are very handsome specimens of this popular variety, and for which he will please accept our thanks.

☞ Why does our friend Harris of the *Genesee Farmer*, continue to advertise his paper as the "oldest agricultural paper in America," and to assert that it was "established in 1831," when he well knows both statements to be utterly destitute of any foundation in fact? His Genesee Farmer, as he very well knows, has no more connection with the original Genesee Farmer established in 1831, than it has with the original New-England Farmer, established in 1822. The facts are as follows: The first Genesee Farmer, *weekly*, was established by Luther Tucker in 1831, and by him continued until the close of 1839, when, on the death of Judge Buel, that paper was removed to Albany, and united with The Cultivator, under the title of "The Cultivator, *a consolidation of Buel's Cultivator and the Genesee Farmer*," under which title it was published for some years, when the latter part of the title was dropped as unnecessary. On the removal of the Genesee Farmer from Rochester, a *new* paper was started there, called the "*New Genesee Farmer*," and this is the origin of the *present* Genesee Farmer. So that instead of being "established in 1831," Mr. Harris' paper was established in 1840, and instead of being the "oldest agricultural paper in America," it is the junior of several others.

The senior editor of this paper may, perhaps, be considered a little sensitive on this subject; but having commenced his Genesee Farmer in 1831, when there was little demand for such papers, and continued his labors in behalf of agricultural improvement from that day to this, he confesses to a great dislike to having nine years of his labors appropriated by another concern.

☞ There is nothing reprehensible in the peddling of Rhubarb roots about the country; on the contrary, it may afford some farmers a new opportunity of growing stalks to make pies of, and, should they so choose, such wine as they can from the juice. But why call it the "Wine Plant?" Why advertise, as some are doing, "the genuine Myatt" or "the genuine Linnæus *Wine Plant*," as though these were novelties that could nowhere else be obtained than of certain favored cultivators and their peripatetic agents? We do not know what price rhubarb roots sell for under these names, but it is singular if the novelty of the name is not an item in the bill. Farmers should know already, and this is intended to apprise such as may not, that every nurseryman, and two-thirds of the vegetable gardeners in the country, have these and other good varieties of rhubarb for sale; and, if they wish to buy, they are advised to pay no more for them under the high sounding title of "wine plant" roots, than they can get the same thing for, under its genuine appellation.

That a drink can be made from rhubarb no one disputes—such as it is—and if sugared and spirit-ed, something that unpracticed persons may imagine to be a tolerable imitation of wine. Currants, and elderberries, and various other plants, will afford pleasant beverages; and some of them, if properly manufactured, have a distinctive character of their own which is really very fine. But we have never seen anything made from rhubarb yet, that was not intended to be an imitation of "Port" or "Madeira"—or something else—for unless one was told, no person who had ever tasted the un-drugged imported article, could decide exactly *what* the imitation was intended for. Such parodies of foreign wines—whether their basis be rhubarb, or cider, or currants, or grapes themselves, no matter—are utterly execrable: the object sought should be to obtain a pure product of the highest perfection of which it is capable; to call it by its own name; to add in this way whatever we can that is healthful, either to the delicacies or the medicinal resources of the household—but not to ape foreign productions, which when they reach us, nine times out of ten, are so adulterated that we are imitating what is at best only a poor imitation, if not an actually pernicious counterfeit.

☞ We have heretofore referred to the Shows of Seed Grain annually held by some of the Local Agricultural Societies in Great Britain. As an example of the interest and competition they excite, we may state that the East Lothian (Scotland) Agricultural Society held such an exhibition Oct. 9th, at which "210 quarters" or 1680 bushels of seed wheat of various kinds were shown. As the prizes go for the best lots of 10 quarters, this would show 21 competitors. First prizes were awarded on the best samples of Hunter's wheat, Hopetoun wheat, Fenton wheat, and, under the head of "any other white variety," to a quantity of "Shirreff's Bearded," which weighed 66½ lbs. per bushel. Such shows afford an example that should be followed in our wheat districts rather more in earnest than was the case at Rochester in September last.

☞ Mr. E. N. Bissell, Shoreham, Vt., has bought eighteen yearling ewes from the admirable flock of Silesian Merinos of Wm. Chamberlain, Esq., near Barrytown, Dutchess Co., and forty-two ewes and one ram lamb from the "Infantado" flocks of Messrs. Stephen Atwood and his two sons, Woodbury, Conn. These are very choice sheep, and will add greatly to the value of the excellent flock already in the hands of Mr. B.

In a note on page 128 of Mr. Randall's "Practical Shepherd," to which Mr. Bissell calls our attention, it is stated that Mr. Stephen Atwood sold a Ram in 1844, at the Poughkeepsie State Fair, to Judge M. W. C. Wright of Shoreham, for the purpose of crossing the "Infantado" upon the "Paular" and other sheep. Mr. B. has shown us Mr. Atwood's certificate, that the ram referred to was in fact purchased by his father, Salmon L. Bissell, instead of by Judge Wright.

The Potato Plow.—There are several different plows used for throwing potatoes out of the ground, manufactured in this country; but all the valuable ones that we have met with, are copied in principle from the English implement, consisting of parallel iron rods, running backwards from the share, so as to sift the earth and throw the potatoes to the surface as it passes. We have used one of these plows for several years, and find it a valuable labor-saving implement. It throws the potatoes to the surface of the earth, from which they are readily picked up by hand. Two men, with one of these plows will dig about as many potatoes in a day as six men working with hoes, after the old-fashioned manner. It is important, but not essential, that the soil should be free from any weeds.

Working Heifers.—John Carruth of West Waterville Me., writes the Boston Cultivator that a neighbor of his has a pair of two-year old heifers which are broken to the yoke and work kindly. The girth of the largest is six feet three, and she weighs 1,110 pounds.

Angora Goats.—Winthrop W. Chenery of the "Highland Stock Farm," Belmont, Me., has just received an importation of 27 Angora goats from Asia Minor, in fine condition, after a voyage of fifty-one days.

Inquiries and Answers.

THE PRACTICAL SHEPHERD.—I noticed in the Co. Gent. of Oct. 29, that a work on Breeding, Management and Diseases of Sheep, by Henry S. Randall, L. L. D., has just been published. Will you oblige me by informing me where it can be obtained? J. E. W. *Hatfield, Mass.* [We believe it is sold by agents only; the publisher declines to supply us with copies for sale, and we are therefore obliged to return all orders for it that we receive. Other inquirers on the subject will accept this as an answer to their questions also]

PLANTING MAPLE SEED.—I wish to know through your valuable paper, when is the proper time to plant white or soft maple seed. Will they grow if planted in fall or spring? Also elm seed—will same time of planting do? I have some gathered for planting this fall or next spring. Any information on these two questions will be thankfully received. Thos. Bell. *Elizabeth, Ill.* [Maple seed may be mixed with leaf mold in autumn, and planted half an inch deep early in spring. The seed of the elm ripening earlier, may be planted as soon as ripe, in fine, friable earth, taking care to keep the surface moist until the young plants are well rooted]

SULPHITE OF LIME.—Please republish the recipe for using sulphite of lime in making cider. I have it, I think, in some of my back numbers, but cannot find it in many diligent searches. A Subscriber. *Brooks Station, Ky.* [The process was thus described by a correspondent of the Country Gentleman in 1860: "After the apple juice or grape juice have fermented until they have acquired the best taste, but before much vinegar is formed, add the sulphite of lime in the proportion of ¼ ounce to the gallon. The fermentation is instantly checked, and the cider, being now undisturbed by its own fermentative commotions, in a few weeks settles, becoming finer than any glue, or isinglass, or milk can make it, by any number of rackings. There may be a little flavor of the sulphur at first, but that I suppose must pass off before ong, as I find it gradually diminishes.."]

BOOKS.—Will you please inform me what is the best work on grape culture, and where it can be obtained, with price, &c, also what are the best works on general farming, with their prices? A. Hanley. *Apple Grove, Polk Co., Iowa.* [Phin's "Open Air Grape Culture" will probably suit you as well as any other work, price $1.25. Allen's "American Farm Book," is the best cheap work on general farming—price, $1 25. The "American Farmer's Encyclopedia," is a much larger and a good work, price $5. We can send you these books, postpaid, at the prices named]

ROTATION AND CLOVER.—You would oblige me very much by giving me a little advice relative to dividing my farm, with a view to a regular rotation. Next spring I propose taking possession of a farm of 120 acres, in Sussex County, Delaware. For the last five years the farm has been worked in true Delaware manner. The rotation has been corn, oats and wheat, until the land became too poor for the latter crop, which has been dropped; the rotation being continued with the remaining crops. The last season having been (to use their expression) a very late one, the farmer could not get in his oat crop, but in its place corn was substituted; the consequence is nearly the whole farm is planted in corn this year. I intend to divide the farm into six fields of 20 acres each, one for corn, another for oats, and another I expect to plow up and sow with clover seed and plaster, which will occupy 60 acres, leaving a balance of 60 acres for future consideration. The land being a light sandy loam do you think the cultivator would work the land sufficiently for clover seed? Any remarks or advice you would be pleased to give, gentlemen, would be thankfully received. A Subscriber to C. G. [Our correspondent can judge best whether the cultivator alone will reduce the land to a fine, mellow condition. If there are some weeds already upon it, it would probably be best to turn the whole surface under with the plow, which should be done before winter. The soil having been somewhat exhausted, a dressing of manure will be almost indispensable for the corn, and would be of great use to the oats. A rotation which succeeds well on strong, fertile soil, consists of corn, oats, wheat, and clover for two or three years, but in this instance the oats would probably be too exhausting and barley would be rather better, and peas still better, for the intermediate crop; but the more frequently the clover comes in the course, and especially if turned under heavily, the more rapidly the soil will become enriched]

DWARF APPLES.—Please to let me know whether dwarf apple trees are an imposition on the public or not, as I heard one of our nurserymen say so the other day; and as I have planted dwarfs, I hope I have not been imposed on; but however, they are growing well, and I have two apples this year, the second from planting. They are the King of Tompkins County, and are a very fine apple. J. C. *Guelph.* [If our correspondents would read more attentively what we have published within a year or two on this and other subjects they would be less at loss for correct information. Dwarf apples are not a humbug, if propagated on the right stocks, and well taken care of subsequently. We have many trees now growing on our grounds in a fine, thrifty condition, some of them bearing one or two bushels annually. The nurseryman alluded to probably either has not tried them, or else has been unsuccessful from improper stocks or mismanagement]

HEELING-IN TREES.—Will you please tell me how to heel in trees, taken up this fall, so as best to preserve them for planting in the spring? H. L. [In reply, we give the following from our Ann. Register for 1864: "In heeling them in, select a dry, clean, mellow piece of ground, with no grass near to invite mice; dig a wide trench, lay in the roots, sloping (fig. 1,) and cover them and half the stems with fine mellow earth; fill in carefully and solid all the interstices among the roots; doing this work imperfectly often results in loss—if well performed, it never can. If much danger is feared from mice, it is better to place the trees erect in the trench (fig. 2,) and round up the whole surface about them; but being more exposed in this position, they should be placed in a more sheltered situation from the winds.

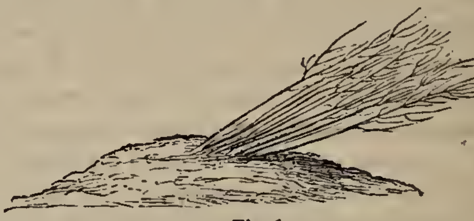


Fig. 1.

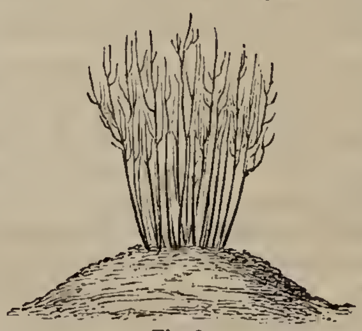


Fig. 2.

BONE DUST.—Can you give me any information as to bone dust (crude) used as a top-dressing on meadow land, clay loam, well drained, both by nature and tiles. How many pounds per acre is the most effective? J. L. A. *Barrytown, N. Y.* [Bone dust has not been so extensively used in different portions of this country, on different soils, and in varying circumstances, as to authorize a confident opinion as to the certain result of untried experiments. It is usual to apply about half a ton per acre, and there is no doubt it would exert, in a greater or less degree, a beneficial influence, particularly on pasture lands.]

PRUNING THE BLACKBERRY.—On the culture of the Blackberry I can find no directions for removing old wood or spring pruning, and you will oblige, perhaps others as well as myself, by an answer. J. B. S. *Saugerties, Oct. 30.* [The best way is to cut out the old and useless stems in summer immediately after bearing; this allows the new stem better room to grow. If not done then, the work may be performed early in spring. It is perhaps best not to do it just before winter, as the old stems afford a little shelter against cold winds.]

COVERING STRAWBERRY PLANTS.—Are leaves from the woods a fit covering for strawberry plants this winter—would'nt they be apt to blow away—if not, would'nt they be a great bother next spring while cultivating the plants? Can't pay $10 for straw. F. L. C. [Leaves are a good covering for strawberry beds, to be placed between the plants, but not heavily over them, as they may smother. They will not blow away unless in places more exposed than strawberries should be planted—after the first rain the leaves will lie flat, and not easily moved by wind. In any rare case, they might be covered with sticks or pea-brush. They may be plowed or spaded under in the spring, or if in a thick layer, raked off.]

MANURE-SHEDS AND MUCK.—Will you or some of your numerous subscribers, inform me through The Cultivator, the best way to construct manure-sheds, and if it makes any odds whether "muck" is applied wet or dry? E. C. K. [The cheapest manure-sheds may be made by procuring first a suitable number of long posts, of locust or some other durable wood. As twelve feet boards are of the most convenient length for making the shed, set a row of tall posts firmly in the ground for the centre or peak of the shed, and nearly or about twelve feet apart. These posts should extend upward twelve or fourteen feet from the ground. Then place a row on each side for the eaves, nearly or about ten feet from the central row, and the same distance asunder as the others. All that is now necessary is to put on the roof. Form the ridge or peak by nailing boards on each side of the tall posts at the top, forming straight, continuous, horizontal strips. Strong boards, a foot wide, should be selected for this purpose, as they may sometimes have to sustain a heavy weight of snow. Form the plates by nailing similar boards to the tops of the lower posts. The roof is completed by placing boards from the peak to the plates in the usual manner. If necessary to exclude winds, one or two sides may be boarded up on the posts. Any desired length may be given to the shed, according to circumstances. Any farmer can build this shed himself; a more finished structure may be made by a carpenter. Muck should be as dry as possible when used, when it will absorb several times its weight of liquid manure. If wet, it will absorb little or none, and its value as an absorbent be thus lost.]

THE LOMBARD AND OTHER PLUMS.—Having read your remarks upon the Lombard plum in the Oct. No. of The Cultivator, I wish to inquire whether it is less troubled by curculio than the Gorman prune? A year since I received the German prune from Ellwanger & Barry, but find by reference to the books, that there are two varieties which go by this name, viz., the Domine Dull and the old Quetche plum. Can you tell me which I probably have, and which is freest from curculio? A Subscriber. [The Lombard plum is more liable to the attacks of the curculio than the German prune, the latter often escaping when other sorts are totally destroyed. The German prune or Quetche and Domine Dull are distinct varieties, although the latter is often called by the name of the German prune. The Domine Dull is less elongated, and with less distinct suture, and is perhaps rather more liable to the attacks of the curculio than the German prune.]

HORSE RADISH.—We some time since received an inquiry, which has been mislaid, about preparing horse radish for winter use. Our market gardeners take up the roots before the ground freezes, and bury them in sand in a box or a corner of the cellar, where they will not freeze, from whence they are taken and grated as wanted for use.

BARN-YARDS.—Answer to A. J. S., p. 304.—I had a barn-yard that I could not keep dry enough for cattle. I covered it a foot deep or over with stone, then put about ten inches of earth over the stone, and put some 40 head of cattle in occasionally before the foddering season, (after a shower is best), and they trod the clay hard over the stone. It has been a dry yard ever since, and it must be near 20 years since I so laid it. Before that, in open winter, my cattle got sore feet and swollen limbs, but never since I fixed the yard in that way. John Johnston.

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Books for the Farm and Garden. — Most of our readers are aware that Luther Tucker & Son of Albany, publish a neat and most acceptable annual in paper covers, called the Register of Rural Affairs. This cheap and unpretending pamphlet, costing only twenty-five cents, is crowded with serviceable hints on all branches of rural economy and taste. Its contents are mainly original, being prepared by John J. Thomas, a standard authority in farming and fruit culture; while from their successive numbers a beautiful triennial volume is compiled, known simply as Rural Affairs. Of these volumes three have appeared, including the nine years from 1855 to 1864, each distinct from its fellows, yet forming together a rare compendium of facts and suggestions on all that pertains to country life. The subjects treated embrace the whole range of farming, fruit, flower and kitchen gardens, building cottages and laying out grounds, the care and management of domestic animals, and whatever conduces to the landholder's profit, comfort luxury and taste. These volumes are full of variety and interest, and embellished with more than four hundred engravings each. They are cheap enough to come within the means of all, and we know of no works better calculated to aid in raising actual farm life to something like its beautiful ideal. The same publishers issue the Country Gentleman, a weekly periodical, equal in ability and identical in aim, from whose full columns the monthly Cultivator is compiled; so that this single office, in its weekly, monthly, annual and triennial issues, sends forth countless agencies of elevation and refinement, aiding both the material and moral wilderness "to blossom as the rose."—*Springfield Republican.*

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[For the Country Gentleman and Cultivator.]

HOW TO IMPROVE WET BARN-YARDS.

Eds. Co. Gentleman—Your correspondent A. J. S., inquires how to drain and make dry a low barn-yard, or in other words, would like the experience of those that have had trouble with low and wet barn-yards. I have just completed an arrangement that bids fair to pay me well for all trouble and cost, and works well so far.

I make box drains out of two inch plank—size of inside 6 by 10 inches—close up the upper end with plank two inches thick; make quite a number of auger holes in the sides and ends of said drain, fill in the ends and sides next to the auger holes with a quantity of small cobble stones, so that the surface water can settle through and pass off freely by the aid of the box drain. I cover it over with a small quantity of straw, then with earth. I find such arrangements give me a dry and nice yard. Having eave troughs to your barns and sheds will help the matter very much.

I would also add that one place much traveled over, was so mirey that I had to lay down a lot of old planks or boards to make a foundation to build upon, leaving the drains even with the plank so laid down, and cover over the plank with cobble-stones and earth. That part is now as firm as any part of my yard. H. W. W.

Flint, Mich., Nov. 7, 1863.

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Loss of Horses.—During the past year the government has lost 11,000 horses by battle and disease. The average number daily received at the veterinary hospitals at Washington alone was over 100, of which not more than one-half are returned for duty. It was claimed that a large proportion of this mortality might be saved by the employment of regularly trained veterinary surgeons in the army.

THE ADIRONDAC GRAPE

took the Premium at the great Grape Exhibition recently held in New-York, as the

BEST NATIVE GRAPE,

"QUALITY to rule," over all others, the celebrated Delaware included. It ripens one week before the Hartford Prolific, and two weeks before the Delaware, and is more than double the size of the latter.

Vines for sale by single one, dozen or hundred. Every plant warranted genuine. Circulars sent free. Address,

Oct. 22—w&m1t. J. W. CONE, Norfolk, Conn.

NEW PHILADELPHIA RASPBERRY.—

After the 10th of 10th month (October) we shall have ready for sale and shipment, genuine, well rooted plants of the above, by the dozen or hundred.

From its great hardiness, extraordinary productiveness and fine flavor, it promises to be the leading Raspberry for market or private gardeners. Price, $2.50 per dozen, $15 per 100.

PASCHALL MORRIS,
Agricultural and Seed Warehouse,
Oct. 1—w&mtf. 1,120 Market-St., Philadelphia.

VENTRILOQUISM.

Full and complete instructions in VENTRILOQUISM, together with all the advertised

CHANCES FOR MAKING MONEY,

Sent on receipt of Fifty Cents. Address H. G. WISE.
Nov. 19—w5tm1t. Fleming, Cayuga Co., N. Y.

A NEW WORK,

Entitled DEBILITY AND ITS CAUSES. Price $1. Will be sent to clergymen and medical men FREE OF CHARGE on receipt of 25 cents to pay return postage. Address G C. WESLEY,
Nov. 19—w&m1t. Box 232, Windsor, Vt.

SHORT-HORN BULL FOR SALE.

HOTSPUR, 4030 A. H. B., rich roan: calved May 15, 1860; got by Duke of Gloster, (11382,) dam Imported cow Daphne by Harold, (10299,) see E. H. B., vol. XI. p. 548.

Hotspur was winner of FIRST PRIZE as a yearling, and sweepstakes as best bull of any age, at Watertown, in 1861. SECOND PRIZE at Rochester, 1862, and FIRST PRIZE at Utica, 1863. He is a sure getter, and very gentle. Price, $1,000. Apply to

T. L. HARISON,
Nov. 19—w3tm1t. Morley, St. Lawrence Co., N. Y.

COTSWOLD SHEEP.

Ash Grove, New Preston, Ct.,
October 15, 1863.

Messrs. L. Tucker & Son:

I have this day sold to BURDETT LOOMIS of Windsor Locks, Hartford Co., Conn., my entire flock of Cotswold Sheep, bred directly from my own importations—the get of Imported "Cedric," out of imported ewes. The sale comprises all the ewes bred directly from the importation of 1857. This places Mr. Loomis in possession of the

BEST FLOCK OF COTSWOLDS IN THE UNITED STATES!

and I can in all confidence recommend all who wish to purchase FIRST CLASS COTSWOLDS to examine Mr. Loomis' Flock before purchasing elsewhere. Yours truly,

Oct. 29—w&m1t. GEORGE C. HITCHCOCK.

FOR SALE.—One superior Alderney Bull, 2

years old past, a sure stock getter and winner of the Second Premium at the last New-York State Fair. Price, $100.

Also two pure bred BERKSHIRE BOARS, very fine and large, one four and the other five months old. Price, $15 each. Full pedigrees furnished of the above stock. Address

THOMAS GOULD,
Oct. 1—w3tm2t. Aurora, Cayuga Lake, N. Y.

BERKSHIRE SWINE.—

Including one Boar, 1 year old, and one Sow 18 months old. For sale by WM. J. PETTEE,
Oct. 29—w3tm1t. Lakeville, Conn.

PURE BRED LOP EARED MADAGASCAR RABBITS.

The undersigned having increased his pure stock of the above breed, is now prepared to execute orders, which will be delivered in Philadelphia, carefully boxed ready for shipment. Address

FRANCIS MORRIS,
Sept. 10—w&mtf. Box 1652, Philadelphia Post-Office.

PREMIUM CHESTER COUNTY WHITES.—

THOMAS WOOD

Penningtonville, Chester Co., Pa.,

Continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. April 16—w&mly.

1864 THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS. 1864

NO. X---FOR 1864.

One Hundred and Thirty Engravings!

The Tenth Number of the Illustrated Annual Register of Rural Affairs is now in press, and will be issued without farther delay.

Its contents embrace, as usual, a large variety—including Agriculture and Rural Economy at large, Horticulture, The Dairy, Domestic Economy, etc.

It is illustrated by nearly One Hundred and Thirty Engravings, of which the larger part are from drawings especially prepared for the present Number.

Beside the usual Calendar pages, presenting calculations for the three different parallels of the New-England, the Middle and the Border States, the following synopsis will partially show the chief subjects treated and the ground covered in the "Annual Register for 1864."

I. FARM DUTIES PERFORMED IN SEASON—Fifty-Six Engravings.
II.—ROAD MAKING—Ten Engravings.
III.—MANAGEMENT OF SWINE—Five Engravings.
IV.—MECHANICAL CONTRIVANCES.—Twenty-Two Engravings.
V.—DAIRY FARMING AND CHEESE MAKING—Six Engravings.
VI.—COLLECTING AND PRESERVING INSECTS—Nine Engravings.
VII.—FRUIT CULTURE—Three Engravings
VIII.—DOMESTIC ECONOMY—Six Engravings.
IX.—RURAL ECONOMY.
X.—THE POULTRY-YARD—Eight Engravings.

It will be observed that the Leading Article in the present number of the Annual Register is intended to follow the Farm Labors of the year throughout their round, suggesting the several points particularly requiring attention from month to month. It will be found well worth the price of the Number to every careful reader. In future issues, the various subjects of Gardening, Fruit Raising, &c., will probably be treated in a similar way.

The subject of Cheese Making and the Cheese Factories is now one of especial interest. The article referring to it is the result of a personal examination of the leading Factories, and presents a full and concise statement of all the details of manufacture, as well as the organization of the factories. It is the most complete account of them yet before the public.

The article on the collection and preservation of Entomological specimens, will be of great Interest to students in this important branch of Science.

The Annual Register of Rural Affairs is again offered for cash at the following prices:

Single Copies Twenty-Five Cents.

Five Copies	One Dollar.
Twelve Copies	Two Dollars.
Fifty Copies	Eight Dollars.
One Hundred Copies	Fifteen Dollars.

But at these rates, owing to the increased cost of paper, composition, &c., we can no longer pay the postage (Two Cents per copy) ourselves, as heretofore; and where copies are ordered by mail, the postage must be added therefore to the prices given above.

For still larger quantities for sale by agents, favorable terms will be given. All orders to be accompanied by CASH.

Address all orders or inquiries to the publishers.

LUTHER TUCKER & SON,
Albany, N. Y.

*** Complete Sets of the Annual Register—Ten years—paper covered, comprising about Twelve Hundred Pages of Reading Matter and nearly Fifteen Hundred Engravings, will be sent by mail postpaid for $2: previous numbers are also sent separately at 25 cents each, or any five of them for $1. Complete sets of the Nine Numbers previous to 1864, bound in Three handsome Volumes, on larger, heavier and finer paper, are also for sale, at $1.25 each, or $3.75 for the three postpaid—sold together or separately, as may be desired.

THE FARMER'S LIBRARY

We know of no works which afford so much Practical Information on the subject of American Agriculture, which can be procured for double the cost, as the Third Series of "THE CULTIVATOR," the 10th vol. of which is now completed. The price of the Ten volumes, handsomely bound in muslin, is 75 cents each at this office, or $1.00 each sent by mail, post paid. Either volume from 1 to 10, can be had separately at the same price. The Ten volumes will be sent per Express to any part of the country, on receipt of $7 50.

AMERICAN WEEDS AND USEFUL PLANTS

—Being a 2d and Illustrated edition of Agricultural Botany: an enumeration and description of useful plants and weeds, which merit the notice or require the attention of American agriculturists. By Wm. Darlington, M. D. Every Farmer or Farmer's Son who wishes to know the names and character of the plants growing on his farm should study this book. For sale at the office of the Co. Gent. and Cultivator L. TUCKER & SON.

LARGE FARM FOR SALE—Consisting of 800 acres, 4 miles south of Perrysburg and 12 miles from Toledo. It embraces prairie and timber land. One hundred and sixty acres are under improvement and other portions are partially improved. The soil is very rich, and with a moderate outlay it may be made one of the most productive farms of its size in Ohio, the soil being specially adapted to the growth of Tobacco, Flax and other products requiring a soil of extraordinary fertility. The surrounding country is considerably improved. A good dirt road passes straight from Perrysburg, through the farm, adjoining which are two school houses. Perrysburg being on the navigable waters of Lake Erie, affords a good market for farming products, and good society. The Dayton and Michigan Railroad has a station within 2 miles of the land, from which a half hour by rail will take the passenger to Toledo. Being well adapted to grass, it would make a productive stock farm. If desired by the purchaser, 640 acres, embracing an entire section, and most of the prairie, and all of the improvements, would be sold by itself. Terms $5,000 on giving possession, and balance on long time, if desired, at 6 per cent. The whole tract would be sold at $15 per acre, or the section by itself at $18 per acre.

SCOTT & ROSS, Real Estate Agents,
Oct. 22—w&mtf. 132 Summit-St., Toledo, Ohio.

RURAL ADVERTISER,

OF EIGHT QUARTO PAGES,

A MONTHLY PUBLICATION, DEVOTED TO

AGRICULTURE. HORTICULTURE, AND RURAL ECONOMY.

At 25 Cents per annum, payable in advance. Published by
PASCHALL MORRIS, 1,120 Market-St., Philadelphia.
Where subscriptions will be received. Sept. 24—w&mtf.

TO CHEESE MAKERS!

RALPH'S PATENT IMPROVED "ONEIDA CHEESE VAT."

Was awarded the FIRST PREMIUM by competent judges, after a thorough test of merit, at the New-York State Fair 1862. It is the most simple, durable and effective cheese making apparatus in use. Is used in dairies of 10 to 1,000 cows. The only vat well adapted to "factory" cheese-making. More economical in use than steam, and much less expensive in cost.

We have on hand, ready for delivery, all sizes, varying from 84 to 600 gallons.

Circulars containing description, size and price list, and directions or using, sent on application to

William Ralph, } WM. RALPH & Co.,
John Carton. } 133 Genesee-St., Utica, N Y.,

Manufacturers and dealers—wholesale and retail—in Dairyman's Tools and Implements. Feb. 12—w&m1yr.

PREPARE FOR THE HOLIDAYS!

Booksellers, Fancy Goods Dealers, and the public will please remember that there is no other GIFT which compares with the CRAIG MICROSCOPE and MOUNTED OBJECTS, being an endless source of amusement and instruction. Over 200 dozen Microscopes and 700 dozen objects have been sold within a year by the Boston Agent alone. This Microscope, in brass, is mailed, postage paid, for $2.25; or with six beautiful mounted objects for $3; or with 24 objects for $5. In hard rubber, for 50 cents in addition to the above prices. A liberal discount to the trade. Address HENRY CRAIG,
Nov. 5—w&m5mos. 335 Broadway, New York.

NEW-YORK STATE TILE WORKS'

NEAR THE CORNER OF

LARK & LYDIUS-STREETS, ALBANY, N. Y.,

WM. M. BENDER, Proprietor.

GEO. JACKSON, Superintendent.

The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same.

Also DRAINING TILE MACHINES for sale of the latest improved Patterns. For further particulars address as above. Ap. 9—w&m

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ALL HAIL THE TRIUMPH THAT

FICKARDT'S CATTLE POWDER HATH ACHIEVED!

THOUSANDS ARE TESTIFYING TO ITS EFFICACY.

"*The Merciful Man is Kind to his Beast.*"

AFTER years of study and experiment by the Inventor, to compound from PURE VEGETABLE MATERIALS a Powder that SHOULD and MUST take the place of the thousand and one nostrums gotten up and palmed upon the public as "CERTAIN REMEDIES" for the cure of all diseases which the brute creation are "heir to," he has produced the one heading this advertisement, and none CAN BE GENUINE unless bearing our FAC SIMILE signature. The demand has been such that its sale has been chiefly confined to the State of Pennsylvania, but we have now consummated such arrangements that we are prepared to supply the numerous orders now on hand, as well as those we may hereafter receive from other States of the Union.

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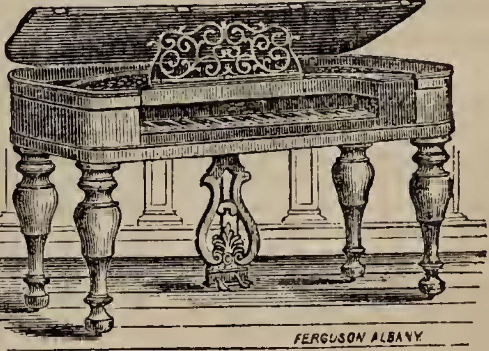

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